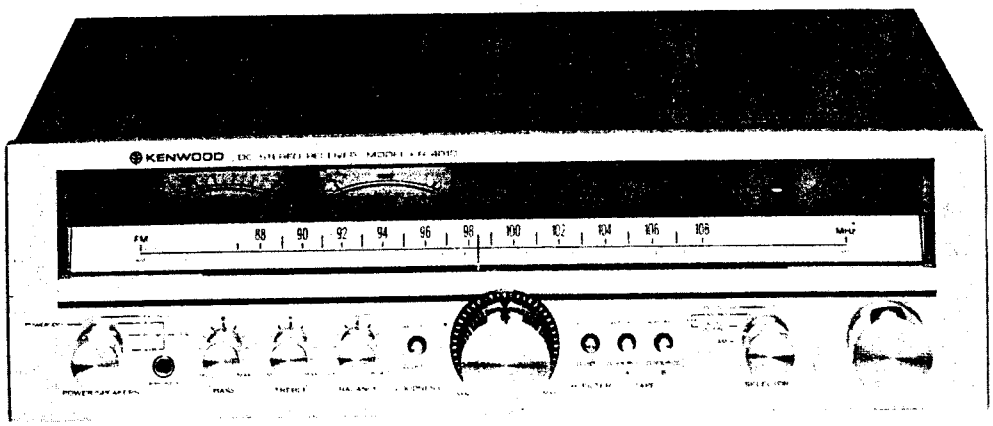
KENWOOD

HI/FI STEREO COMPONENTS

SERVICE MANUAL

KR-4010
KR-5010
(KR-5510)

An item of adjustment is written in three languages — English, French and German.
Un article sur réglages est écrit en trois langues, Anglais, Français et Allemand.
Ein Artikel der Abgleich wird auf drei Sprachen, Englische, Französisch und Deutsch geschrieben.



DC STEREO RECEIVER

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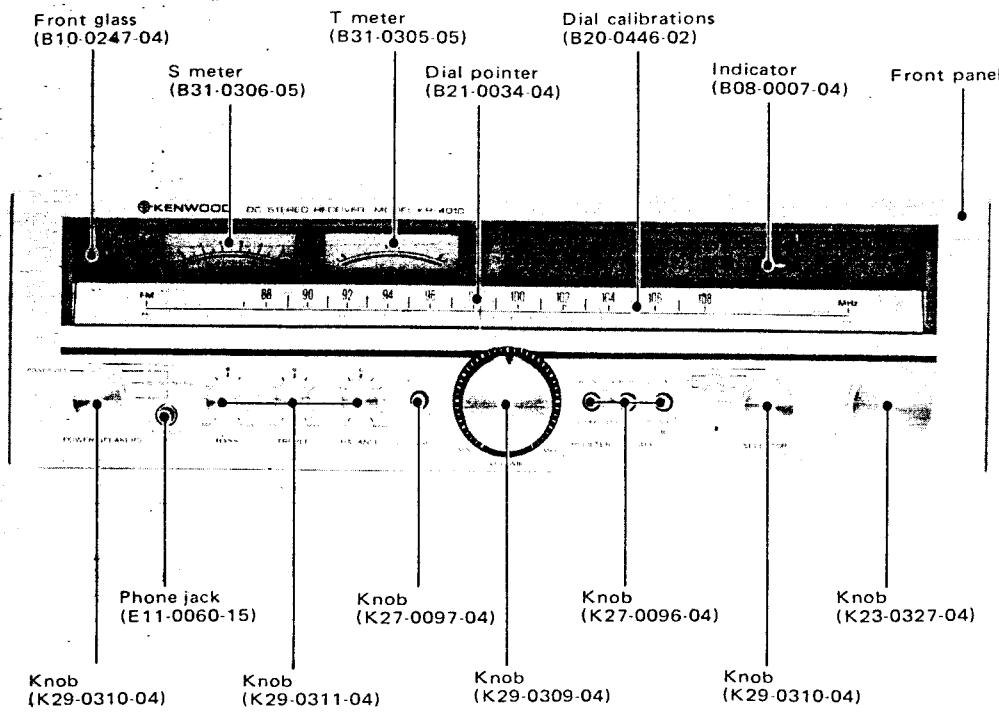
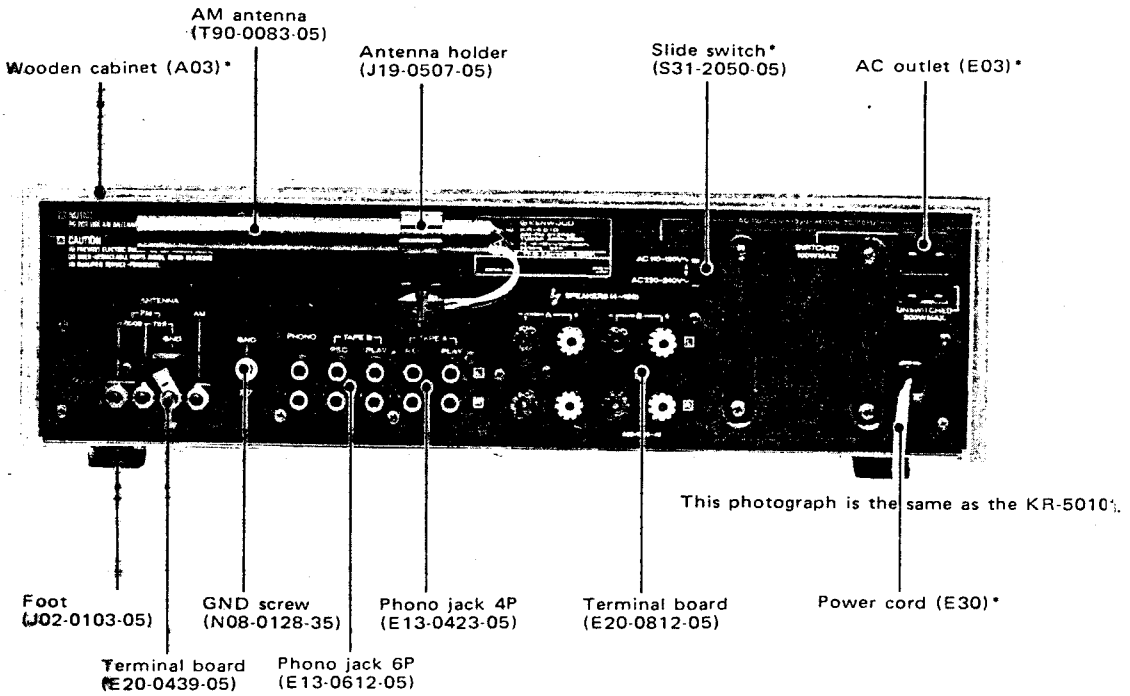
Note:
This manual is for the KR-4010, KR-5010 and KR-5510 (KR-5510's H type). Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the U.S. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

Region	Code
U.S.A.	K
Canada	P
PX	U
Australia	X
Europe & Scandinavia	E
England	T
Other Areas	M
Audio Club (KR-5510)	H

EXTERNAL VIEW (KR-4010)

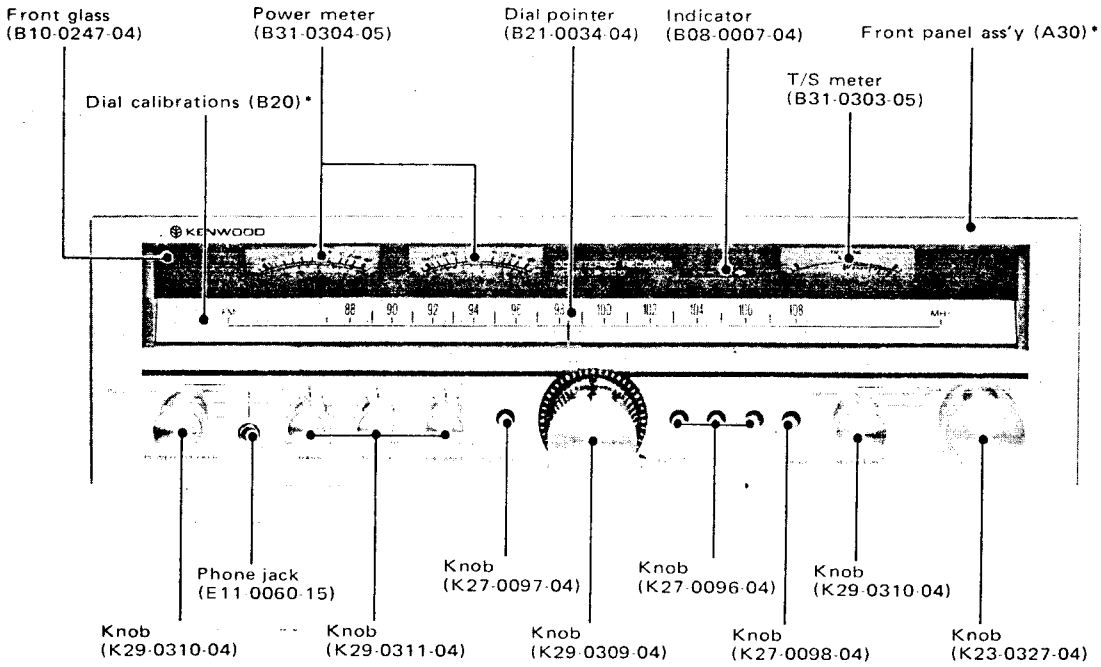


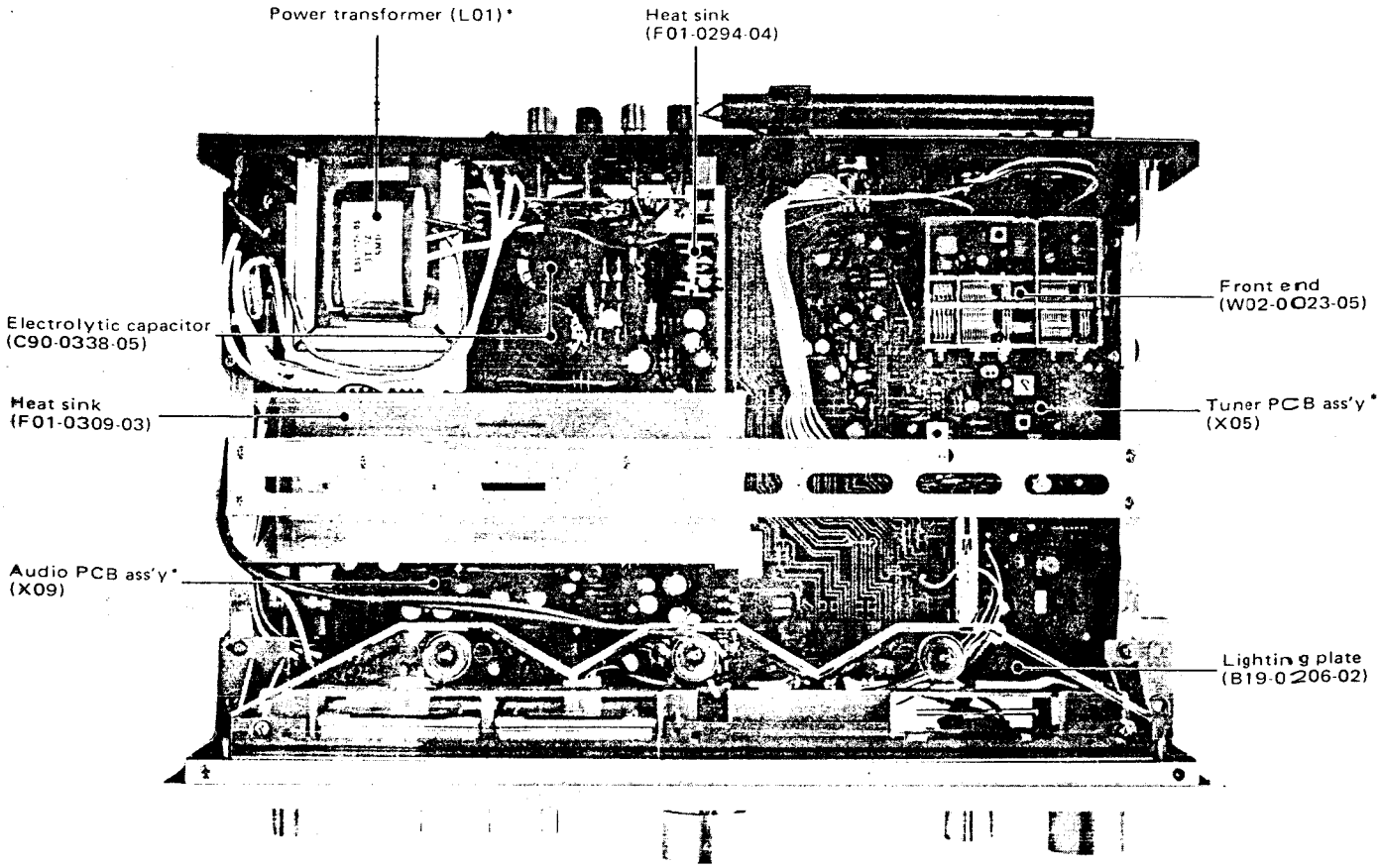


This photograph is the same as the KR-5010.

* Refer to Parts List

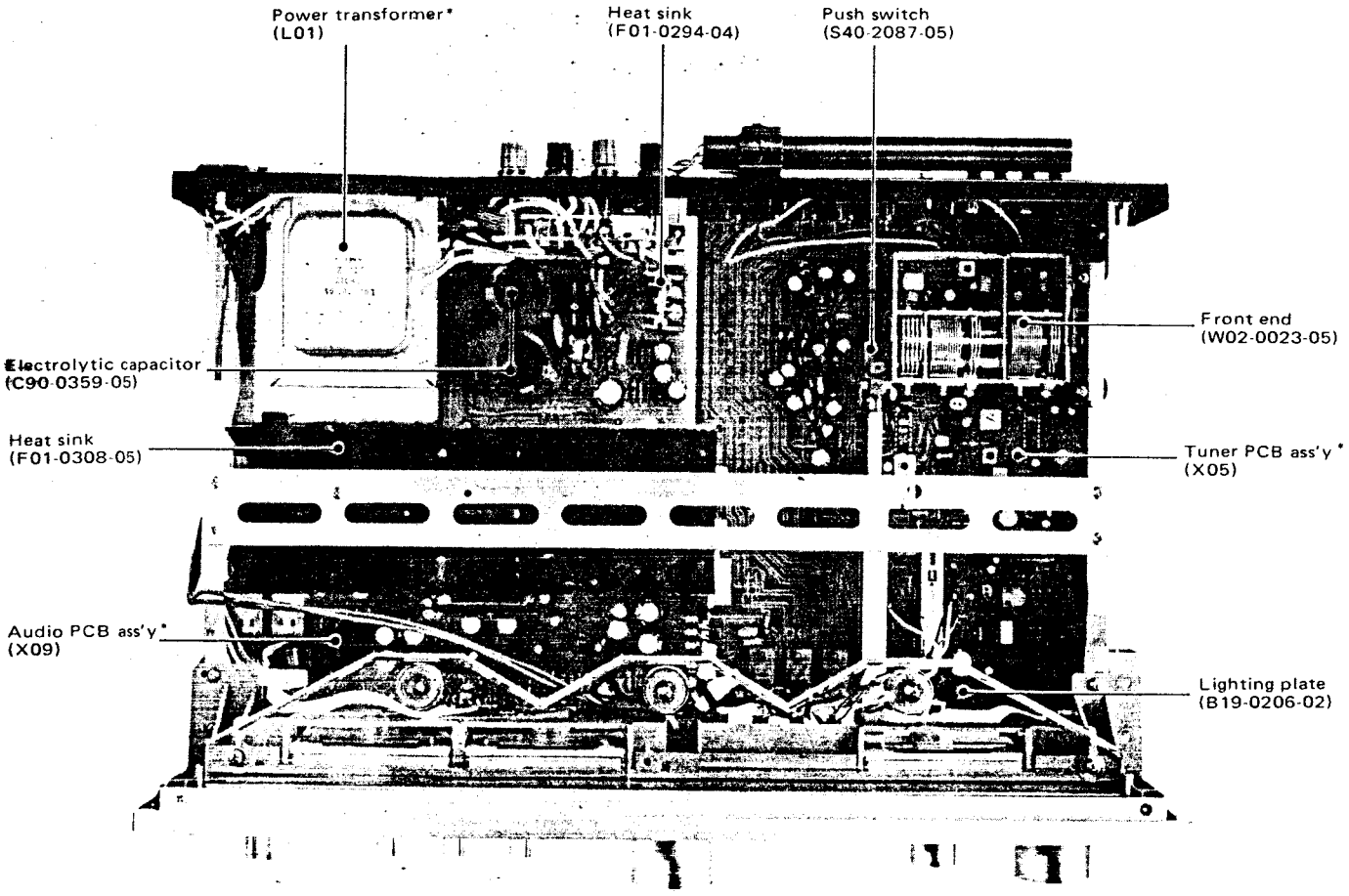
EXTERNAL VIEW (KR-5010)/ INTERNAL VIEW (KR-4010)





* Refer to Parts List.

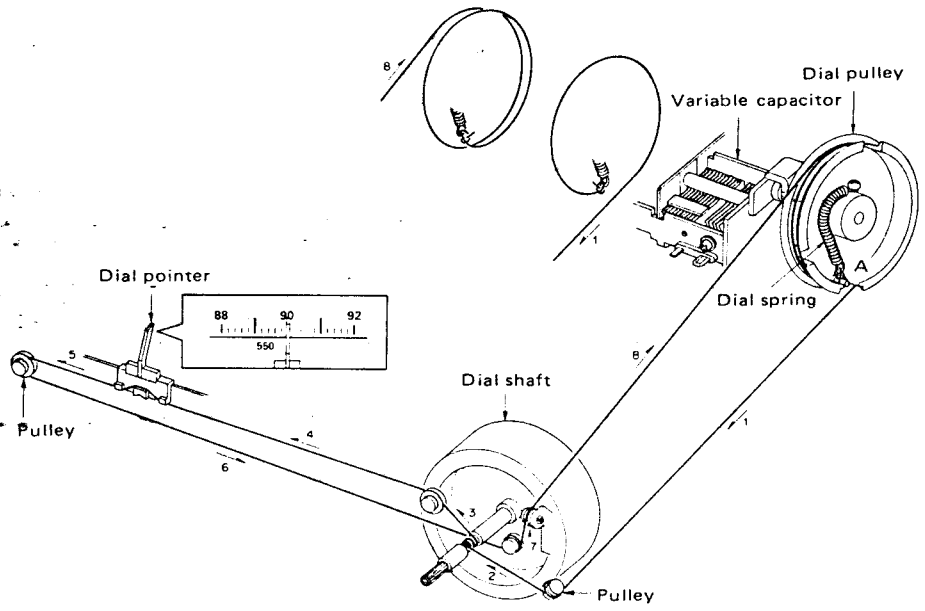
INTERNAL VIEW (KR-5010)/DIAL CORD STRINGING



* Refer to Parts List.

DIAL CORD STRINGING

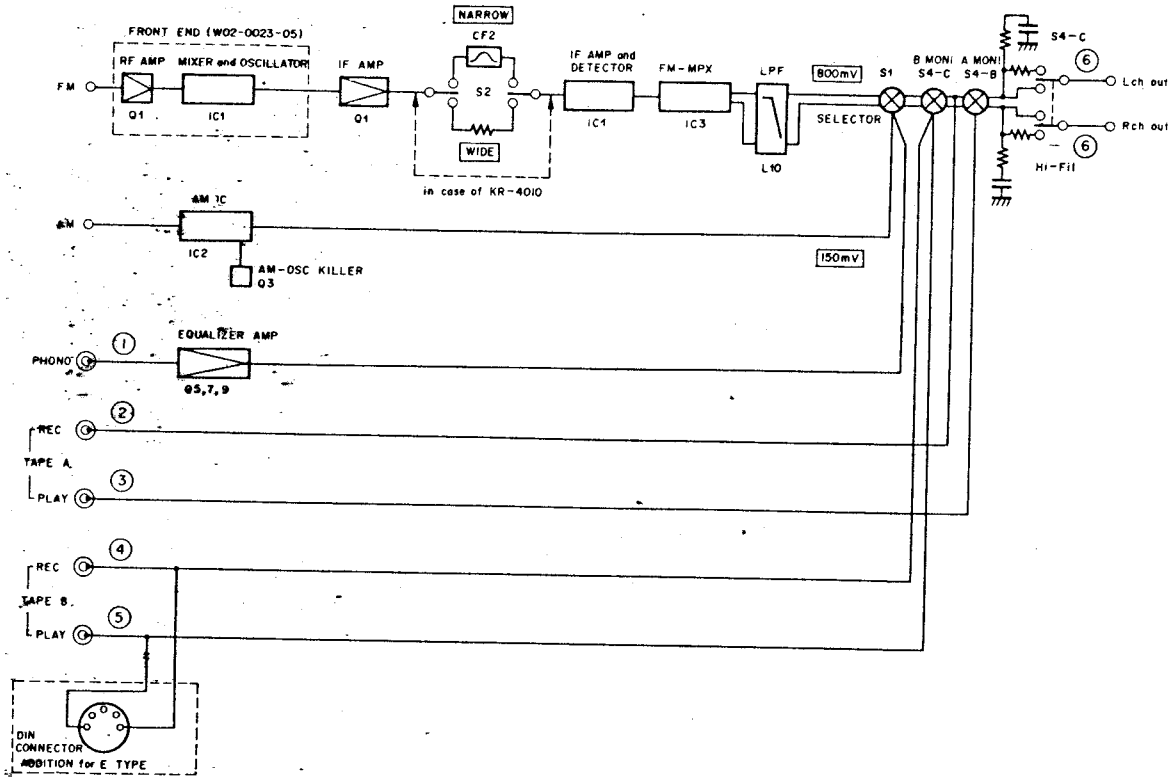
1. Set the dial pulley as illustrated.
2. Tie the dial cord to the dial spring.
3. Hook the dial spring on the boss A.
4. Dress the dial cord in the direction of "1" to "2".
5. Wind the dial cord three turns around the dial shaft starting from its upper side.
6. Dress the dial cord in the direction of "3" through "8".
7. Wind the dial cord two and a half turns around the dial pulley starting from its upper side.
8. Tie the end of the dial cord to the dial spring.
9. Remove the dial spring from the boss A.
10. Receive a 90 MHz signal, and then mount the dial pointer at the 90 MHz position of the dial calibrations.



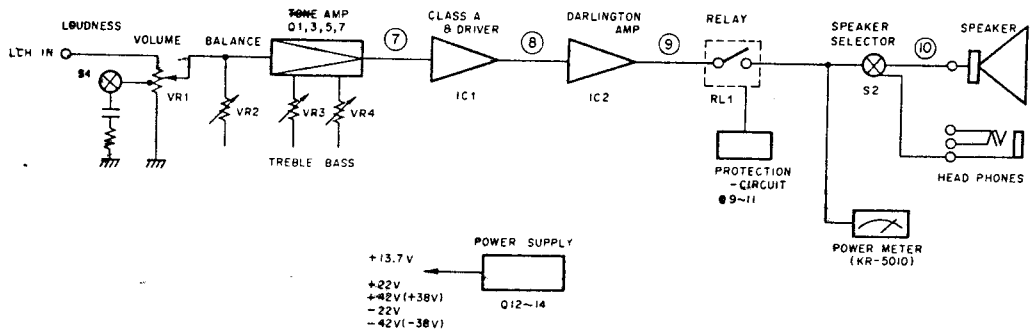
BLOCK & LEVEL DIAGRAM

BLOCK DIAGRAM

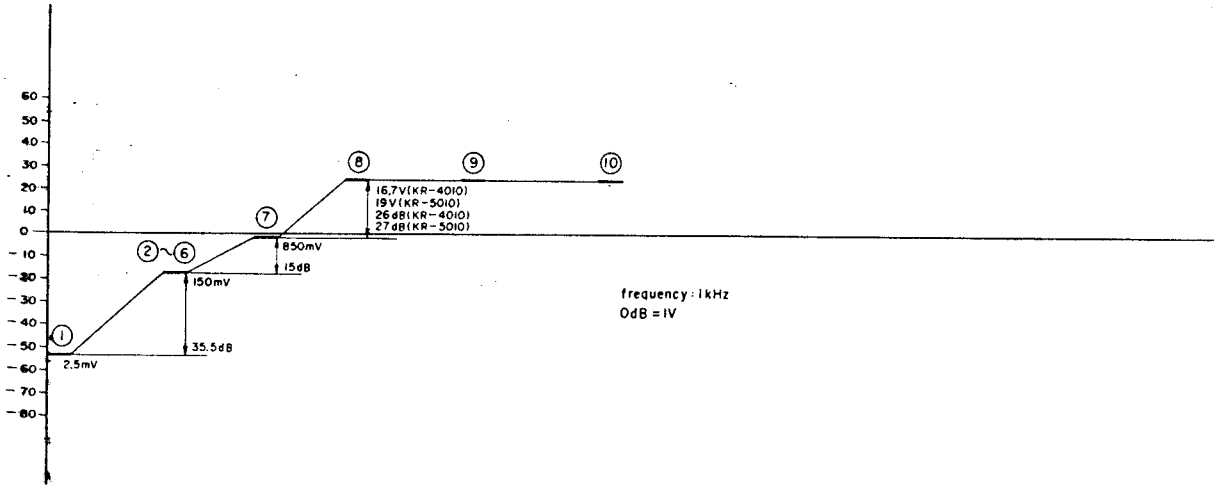
TUNER PCB ASS'Y (X05-1680-10)



AUDIO PCB ASS'Y (X09-1680-10)

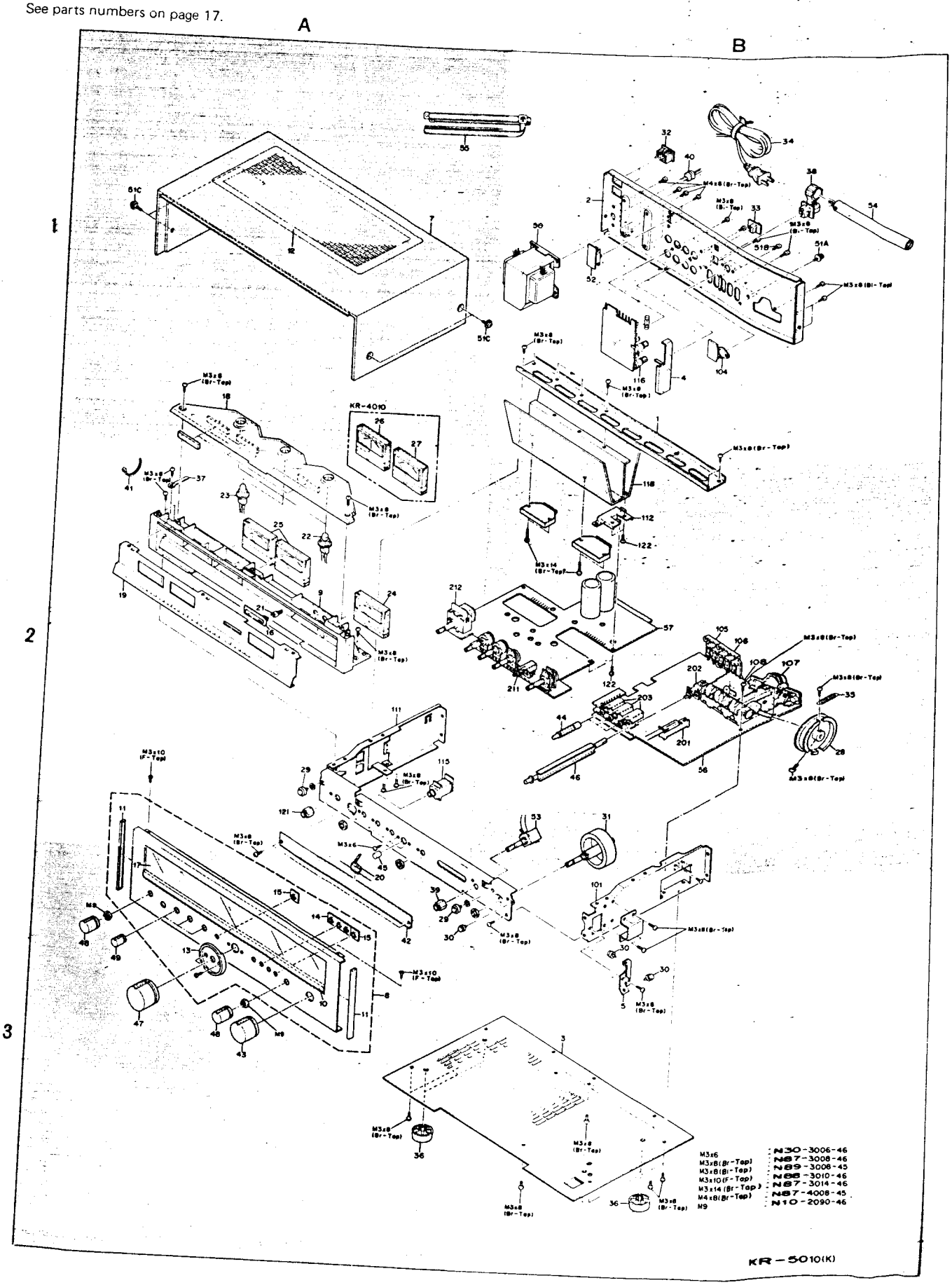


LEVEL DIAGRAM



EXPLODED VIEW

See parts numbers on page 17.



ADJUSTMENT/RÉGLAGES/ABGLEICH

1. OFFSET VOLTAGE

(1) Connect a DC voltmeter between pin 23 (pin 24) of X09-1680-10 and the chassis.
(2) Adjust VR5 (VR6) for a 0V reading of the DC voltmeter.

2. POWER METER (KR-5010)

(1) Set the TAPE switch to A PLAY and the SPEAKERS switch to A.
(2) Connect an AG to the TAPE A jack and a dummy load to the SPEAKERS A terminals.
(3) Connect an AC voltmeter across the dummy load.
(4) Set the AG to 1 kHz and for a 4.9 V reading of the AC voltmeter.
(5) Adjust VR7 (VR8) for a 3W reading of the left power meter (right power meter).

1. TENSION DE DÉCALAGE (OFFSET)

(1) Brancher le voltmètre de C.C. aux points d'alignement, 23 et GND (24 et GND) sur la palque circuit imprimé du ampli (X09-1680-10).
(2) Régler le potentiomètre ajustable VR5 (VR6) de façon à ce que le voltmètre de C.C. indique 0 V.

2. VU MÈTRE (KR-5010)

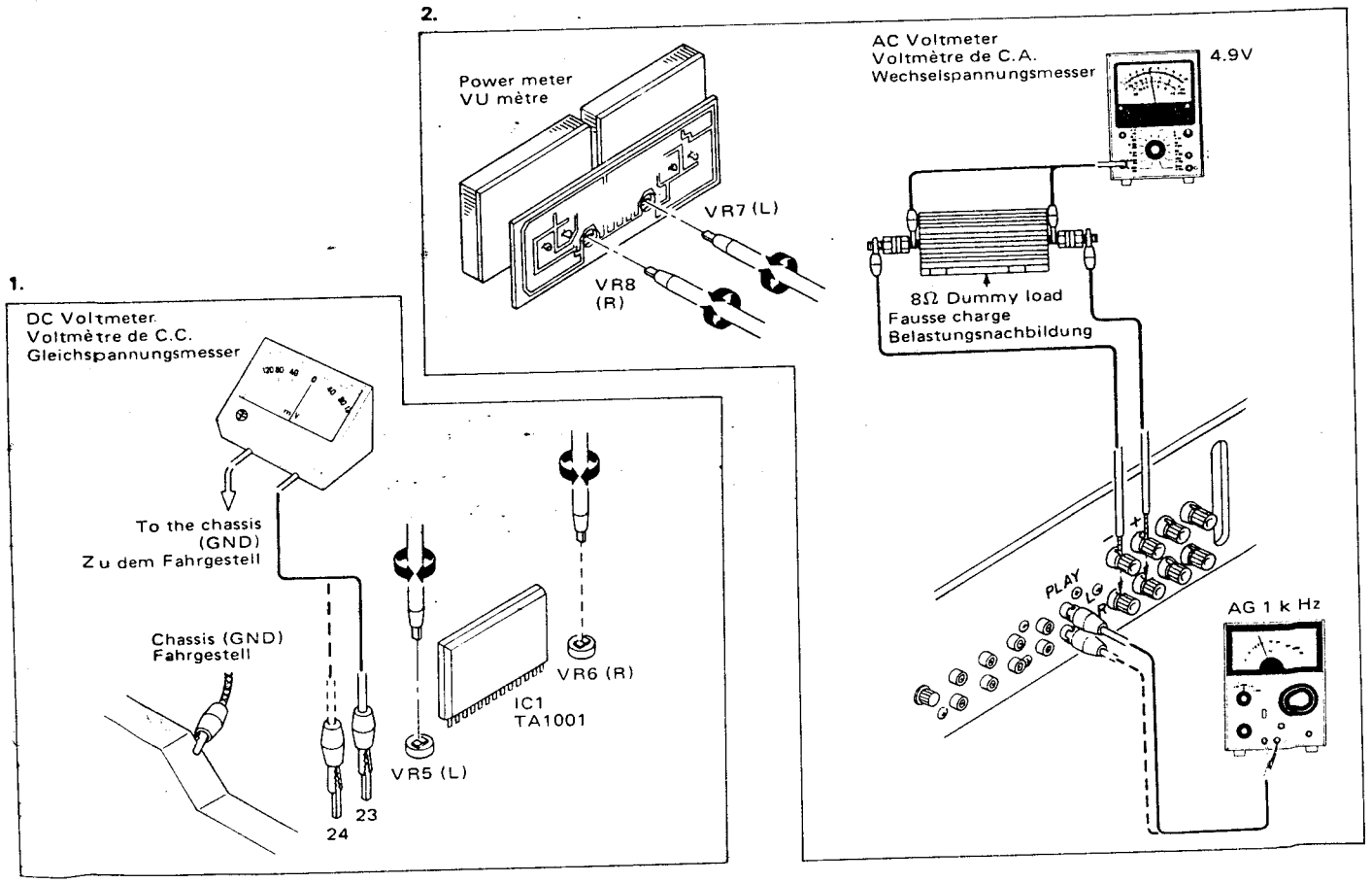
(1) Régler TAPE interrupteur au A PLAY et SPEAKER interrupteur au A.
(2) Relier un AG (générateur de signaux audio) sur les TAPE A et une fausse charge (resistance) sur les sortie de ampli-tuner (SPEAKER).
(3) Relier un voltmètre de C.A. aux deux extremites de la resistance (ou aux borne de sortie + et −).
(4) Régler le potentiomètre ajustable VR7 (VR8) en sortie que le VU mètre indique 3W lorsque le voltmètre indique 4,9 V.

1. OFFSET-SPANNUNG

(1) Einen Gleichspannungsmesser zwischen der klemme 23 (Klemme 24) von X09-1680-10 und dem Fahrgestell anschließen.
(2) Den VR5 (VR6) so regulieren, daß die Gleichspannungsmesser-Ablesung 0 V ist.

2. LEISTUNGSMESSER (KR-5010)(POWER METER)

(1) Den Schalter TAPE auf A PLAY und den Schalter SPEAKERS auf A einstellen.
(2) Einen AG (NF-Signalgenerator) an die Buchse TAPE A und eine Belastungsnachbildung an die klemmen SPEAKERS A anschließen.
(3) Einen Wechselspannungsmesser über die Belastungsnachbildung anschließen.
(4) Den AG auf 1 kHz einstellen.
(5) Die Lautstarkeregler (VOLUME) oder den AG-Ausgang so einstellen, daß die Wechselspannungsmesser-Ablesung 4,9 V ist.
(6) Den VR7 (VR8) so regulieren, daß die linke Leistungsmesser-Ablesung (rechte Leistungsmesser-Ablesung) 3 W ist.

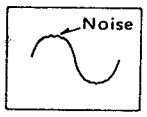


ADJUSTMENT

NO.	ALIGNMENT	TEST EQUIPMENTS		RECEIVER SETTING	OUTPUT INDICATOR	ADJUSTMENT POINTS	REMARKS
		CONNECTION	SETTING				
FM							
1	DISCRIMI-NATOR (1)	Ⓐ	95MHz 1kHz, ±75kHz Dev	95MHz	Ⓑ	–	* 1
2	DISCRIMI-NATOR (2)	ditto	95MHz 1kHz, ±75kHz Dev 60dB (Receiver input)	ditto	T meter	L2	T meter pointer to be center.
3	DISCRIMI-NATOR (3)	ditto	ditto	ditto	Ⓑ	L3	Minimum distortion
Repeat alignments "1 ~ 3" several times.							
4	VCO	Ⓐ	95MHz 0 Dev 60dB (Receiver input)	95MHz	Frequency counter to the crosspoint of R33 and VR1	VR1	76kHz ±200Hz
5	SEPARA-TION	Ⓒ	95MHz * 2 1kHz, ±68.25kHz Dev SELECTOR: L or R 60dB (Receiver input)	ditto	Ⓑ'	VR2	* 3
6	IFT	ditto	95MHz 1kHz, ±68.25kHz Dev SELECTOR: L+R 60dB (Receiver input)	ditto	ditto	T1 (W02-0023-05)	Minimum distortion
AM							
1	IFT	Ⓓ	1,000kHz 400Hz, 30% Mod	1,000kHz	Ⓑ	L6	Maximum deflection
2	TRACKING (1)	ditto	600kHz 400Hz, 30% Mod	600kHz	ditto	L5 Bar antenna	ditto
3	TRACKING (2)	ditto	1,400kHz 400Hz, 30% Mod	1,400kHz	ditto	TC1, TC2 (W02-0023-05)	ditto

*** 1**

Adjust the tuning knob so that the same amount of noise is observed at the top and bottom of the output waveform with a weak signal.



*** 2**

Set deviation to ±68.25 kHz with selector in L+R position. Set deviation of pilot signal to 6.75 kHz (9%)

*** 3 Minimum output**

A compromise adjustment may be required if left-to-right and right-to-left separations are unequal.

*** 4 FM front end**

The FM front end section is completely adjusted in the factory and further adjustment is not necessary. When the transistor and/or FET are replaced, perform the following adjustment.

(1) Set FM-SG to 108 MHz, 1 kHz Mod, ±75 kHz Dev and connect it to the antenna terminal of the receiver.
(2) Set the dial pointer at 108 MHz.
(3) Adjust TC3 so that T meter gives a mid-scale reading.
(4) Adjust TCA and TCR so that S meter deflects maximum.

When the FM front end section cannot be repaired by replacing semiconductors and taking steps in "(1)~(4)", replace the front end PCB ass'y (W02-0023-05) and do the following.

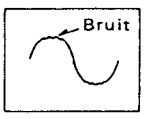
(1) Set FM-SG to 90 MHz, 1 kHz Mod, ±75 kHz, 60 dB and connect it to the antenna terminal of the receiver.
(2) Receive the FM-SG signal.
(3) Fix the dial pointer at 90 MHz.

RÉGLAGES

Nº	ALIGNEMENT	APPAREILLAGE		RÉGLAGE DU AMPLI-TUNER	INDICATEUR DE SORTIE	POINTS DE RÉGLAGES	REMARQUES
		RACCORDEMENT	RÉGLAGE				
SECTION MF							
1	DISCRIMI-NATEUR (1)	A	95MHz 1kHz (MOD) ±75kHz (DÉV)	95MHz	B	—	* 1
2	DISCRIMI-NATEUR (2)	idem	95MHz 1kHz (MOD) ±75kHz (DÉV) 60dB (Niveau d'entrée du ampli-tuner)	idem	Indicateur à zéro central	L2	Aiguille de l'indicateur à zéro central en position centrale.
3	DISCRIMI-NATEUR (3)	idem	idem	idem	B	L3	Distorsion minimale
Repéter les points 1 ~ 3 plusieurs fois.							
4	OSCILLA-TEUR 76kHz	A	95MHz 0 (DÉV) 60 dB	95MHz	Relier le comp-teur de frequence au plot R33 et VR1	VR1	76kHz ±200Hz
5	SÉPARA-TION	C	95MHz *2 1kHz (MOD) ±68,25kHz (DÉV) L ou R(SELECTION) 60dB	idem	B	VR2	* 3
6	TFI	idem	95MHz 1kHz (MOD) ±68,25kHz (DÉV) L+R(SELECTION) 60dB	idem	idem	T1 (W02-0023-05)	Distorsion minimale
SECTION MA							
1	TFI	D	1,000kHz 400Hz, 30% (MOD)	1.000kHz	B	L6	Déviation maximale
2	ALIGNEMENT	idem	600kHz 400Hz, 30% (MOD)	600kHz	idem	L5 Antenne ferrite MA	idem
3	ALIGNEMENT	idem	1.400kHz 400Hz, 30% (MOD)	1.400kHz	idem	TC1, TC2 (W02-0023-05)	idem

*** 1**

Ajuster le bouton d'accord de façon que la même quantité du bruit puisse être observé au sommet et en bas de la forme d'onde de sortie sous des conditions d'alimentation de signal faible.



*** 2**

Régler la déviation à ±68,25 kHz avec le sélecteur en position L+R (gauche + droite). Régler la déviation du signal pilote à 6,75 kHz (9%).

*** 3 Sortie minimale**

Si la sortie la droit de diaphonie et la gauche ne sont cieest pas même regler le potentiomètre ajustable pour que la tension de sortie est même.

*** 4 Partie frontale FM**

La partie frontale FM a été parfaitement réglée en usine et aucun réglage supplémentaire n'est requis.

Si l'on remplace le transistor et/ou FET, il convient d'effectuer le réglage suivant:

(1) Régler FM-SG sur 108 MHz, 1 kHz Mod, ±75 kHz Dev et le connecter à la borne d'antenne du ampli-tuner.
(2) Régler l'aiguille du cadran à 108 MHz.
(3) Ajuster TC3 de façon que l'indicateur à zéro central donne une lecture à mi-échelle.
(4) Ajuster TCA et TCR de façon que l'indicateur de champ dévie au maximum.

Si la partie frontale FM ne peut pas être réparée en remplaçant les semi-conducteurs et en procédant suivant les indications dans (1) ~ (4), remplacer l'assemblage PCB de la partie frontale (W02-0023-05) et effectuer les opérations suivantes:

(1) Régler FM-SG à 90 MHz, 1 kHz Mod, ±75 kHz 60 dB et le connecter à la borne d'antenne du récepteur.
(2) Recevoir le signal FM-SG.
(3) Fixer l'aiguille du cadran à 90 MHz.

ABGLEICH

NR.	ABGLEICH	PRÜFEINRICHTUNG		STEUERGERÄT EINSTELLUNG	AUSGANGS-ANZEIGE	EINSTELL-PUNKT	BEMER-KUNGEN
		ANSCHLÜSSE	EINSTELLUNG				
UKW-EMPFANGSABTEILUNG							
1	DISKRIMI-NATOR (1)	Ⓐ	95MHz 1kHz, ±75kHz Hub	95MHz	Ⓑ	–	* 1
2	DISKRIMI-NATOR (2)	dito	95MHz 1kHz, ±75kHz Hub 60dB (Steuergerät-Eingangspegel)	dito	Kanalmitten-Anzeiger	L2	Den zeiger des Kanalmitten-Anzeiger mittig einstellen.
3	DISKRIMI-NATOR (3)	dito	dito	dito	Ⓑ	L3	Minimaler klirrfaktor
Abstimmungen "1 bis 3" mehrere Male wiederholen.							
4	SPANNUNGS-GEREGELTER OSZILLATOR	Ⓐ	95MHz 0 Hub 60dB	95MHz	Frequenzzähler zum Kreuzungs-Punkt von R33 und VR1	VR1	76 kHz ±200 Hz
5	STEREO KANAL TRENNUNG	Ⓒ	95MHz * 2 1kHz,± 68,25kHz Hub Wähler: L oder R 60dB	dito	Ⓑ	VR2	* 3
6	ZF-T	dito	95MHz 1kHz,±68,25kHz Hub Wähler: L+R 60dB	dito	dito	T1 (W02-0023-05)	Minimaler Klirrfaktor
MW-EMPFANGSABTEILUNG							
1	ZF-T	Ⓓ	1.000kHz 400Hz, 30%Mod	1.000kHz	Ⓑ	L6	MAximaler Ausschlag
2	EMPFANGS-BEREICH (1)	dito	600kHz 400Hz, 30% Mod	600kHz	dito	L5 MW-Ferritantenna	dito
3	EMPFANGS-BEREICH (2)	dito	1.400kHz 400Hz, 30% Mod	1.400kHz	dito	TC1, TC2 (W02-0023-05)	dito

*** 1**

Den Abstimmknopf so einstellen, daß an der oberen und unteren Grenze der Auspangswellenform bei schwachem Signal dasselbe Geräusch auftritt.

*** 2**

Hub mit dem Wahlschalter auf L+R auf 68,25 kHz einstellen. Hub des Kontrollsignals auf 6,75 kHz (9%) einstellen.

*** 3 Minimaler Ausschlag**

Wenn dem Übersprechanteil des linken Kanals in den rechten Kanal und dem Übersprechanteil des rechten Kanals in den linken Kanal ungleich sind eine kompromißabgleichung wird geforden.

*** 4 UKW-Frontende**

Das UKW-Frontende wird bereits im Werk vollständig eingestellt. Weitere Einstellung ist daher nicht nötig. Beim Auswechseln des Transistors und/oder des FETs die Einstellung wie folgt vornehmen.

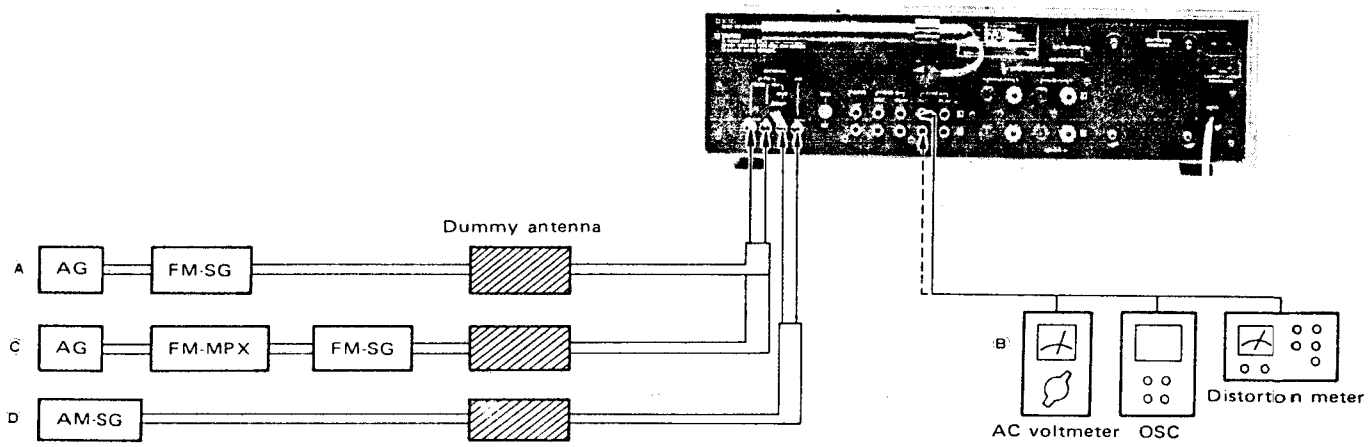
(1) Den UKW-Signalgenerator auf 108 MHz, 1 kHz Modulation und ±75 kHz Hub einstellen und mit der Antennenklemme des steuergeräts verbinden.
(2) Den Skalenzeiger auf 108 MHz stellen.
(3) TC3 so einstellen, daß der Kanalmitten-anzeiger in der Mitte ausschlägt.
(4) TCA und TCR so einstellen, daß das Feldstärkeinstrument das Maximum anzeigt.

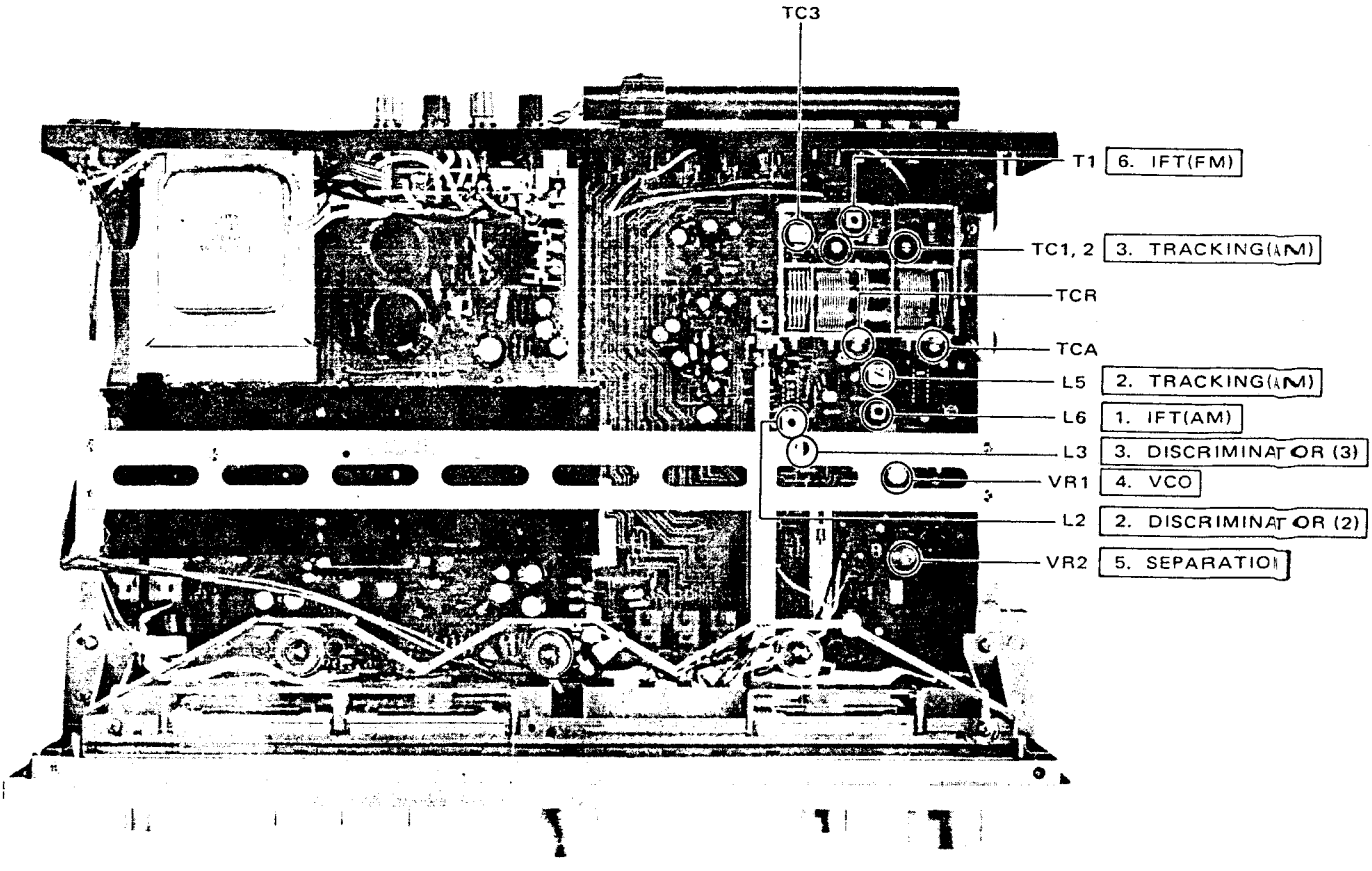
Wenn das UKW-Frontende durch Auswechseln der Halbleiter und/oder durch in Abschnitt "1 ~ 4" genannten Schritte nicht repariert werden kann, ist die Leiterplatte (W0200023-05) des Frontendes auszwechseln und folgende Einstellung vorzunehmen:

(1) Den UKW-Signalgenerator auf 90 MHz, 1 kHz Modulation ±75 kHz Hub, und 60 dB einstellen und mit der Antennenklemme des Steuergeräts verbinden.
(2) Den Steuergeräts so einstellen, daß das Meßsendersignal empfangen wird, während der Skalenzeiger auf 90 MHz zeigt.

ADJUSTMENT/RÉGLAGES/ABGLEICH

TEST INSTRUMENTS	APPAREILLAGE	PRÜFINSTRUMENTE	
Oscilloscope	Oscilloscope	Oszilloskop	OSC
AM signal generator	Générateur MA	MW-Signalgenerator	AM-SG
FM signal generator	Générateur MF	UKW-Signalgenerator	FM-SG
Audio generator	Générateur audio fréquences	NF-Signalgenerator	AG
AC voltmeter	Voltmètre CA	Wechselspannungsmesser	
FM multiplex generator	Générateur multiplex stéréo	UKW-Multiplexgenerator	FM-MPX
Frequency counter	Fréquencemètre	Frequenzzähler	
DC voltmeter	Voltmètre CC	Gleichspannungsmesser	
Distortion meter	Distorsiomètre	Klirrfaktormesser	
Dummy antenna	Antenne fictive	Antennennachbildung	

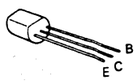




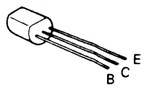
PC BOARD

TUNER (X05-1680-10)

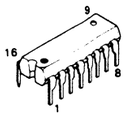
2SC945
2SC1675
2SC1678
2SC1775
2SC1775A



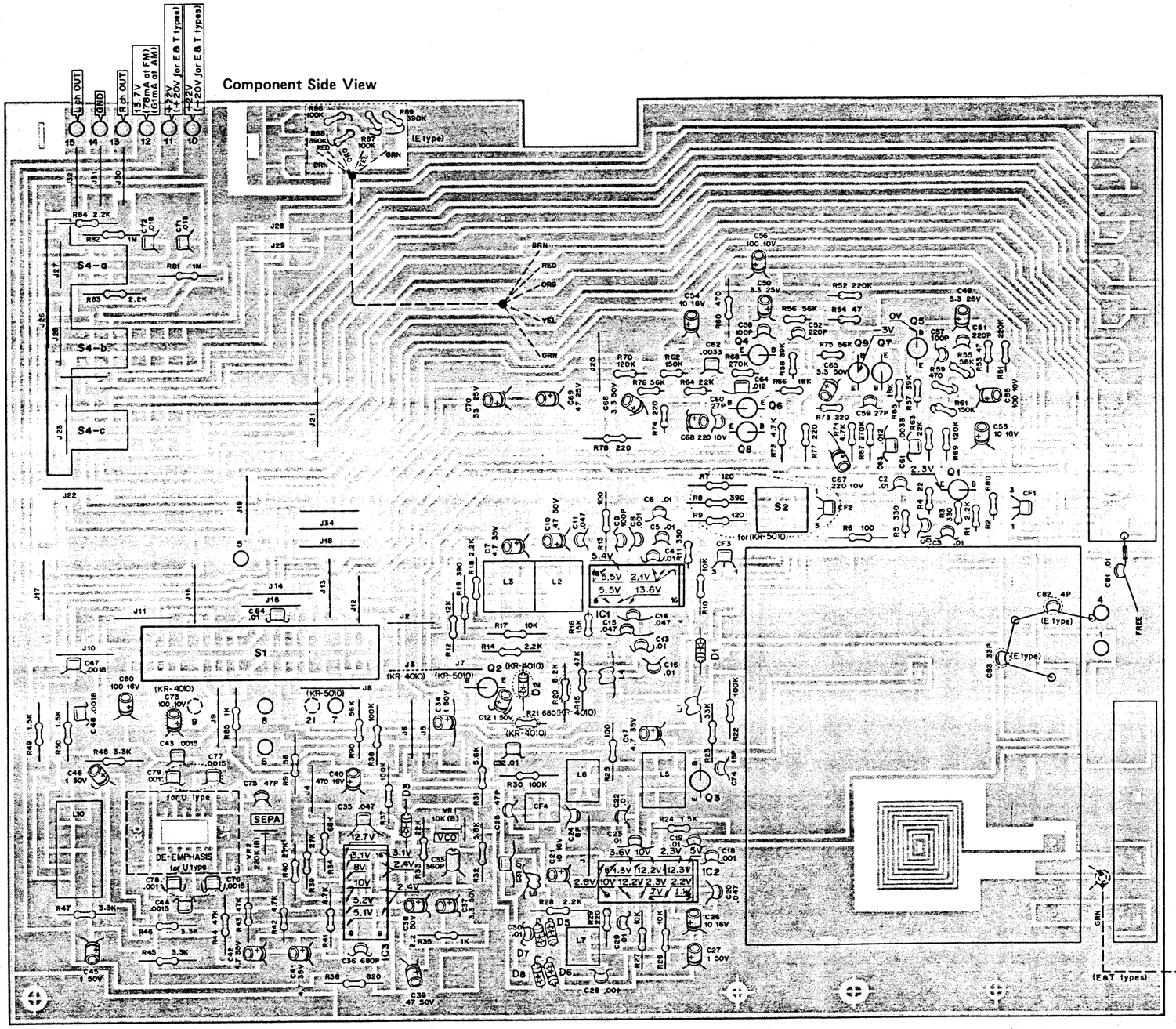
2SA978



HA1137W
HA1197
HA1196



Component Side View

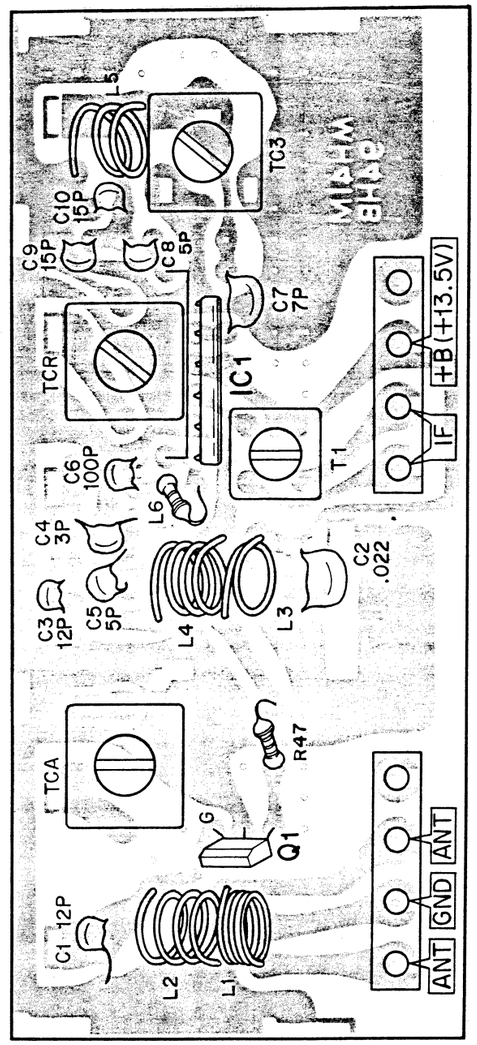


Q1:2SC1675(L,K), Q2,3,6,7:2SC945(R,Q) or 2SD767(Q,R), Q4,5:2SA978(E,F), Q8,9:2SC1775(E,F) or 2SC1775A(E,F) IC1:HA1137W
IC2:HA1197 or LA1240, IC3:HA1196 , D1,3,5~8:1S1555 or 1S2076 D2 (KR-4010):1S1555

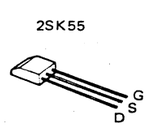
PC BOARD

FRONT END (W02-0023-05)

Component Side View



2SK55

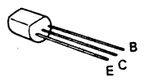


KR-4010, 5010 KR-4010, 5010

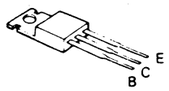
PC BOARD

AUDIO (X09-1360-10)

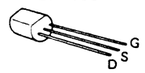
2SA872 2SC945
2SA872A 2SC1845
2SA954 2SC2003
2SA1775 2SD767
2SA1775A



2SD330
2SD762

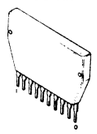


2SK136
2SK163

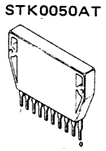


TA-1001

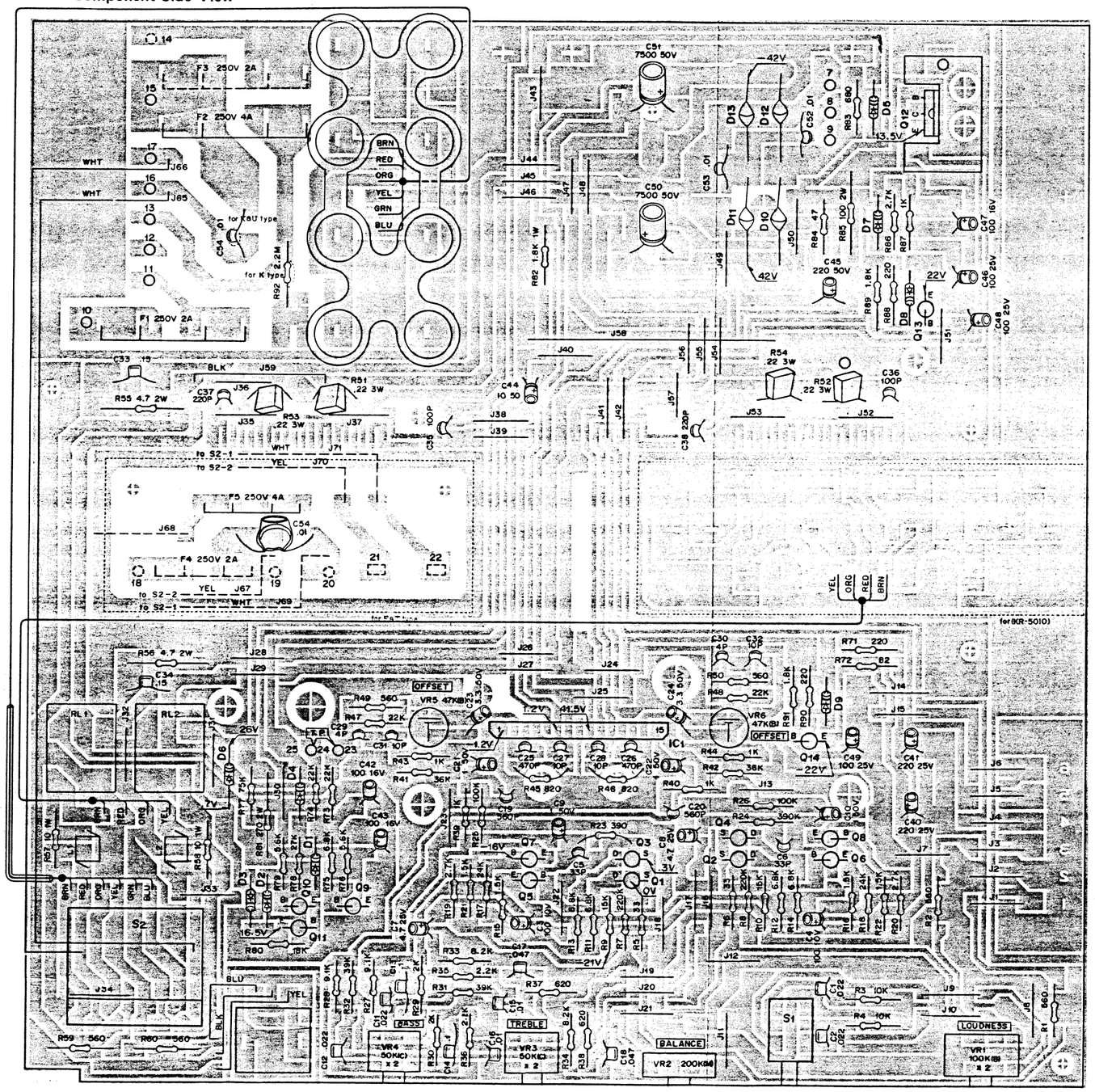
STK0040AT



STK0050AT

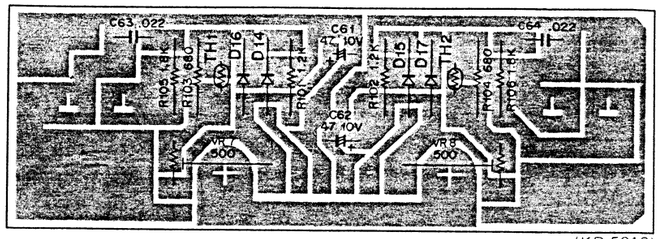


Component Side View



PC BOARD

Foil Side View



(KR-5010)

This PC board drawing is based on X09-1360-10.

*Circuit modifications

1	C50, 51	7500μF	50V	KR-5010
		6800μF	42V	KR-4010
2	R51~54	0.22Ω	3W	KR-5010
		0.33Ω	3W	KR-4010
3	R88, 90	220Ω	1/4W	KR-5010
		100Ω	1/4W	KR-4010
4	R89, 91	1.8kΩ	1/2W	KR-5010
		1.5kΩ	1/2W	KR-4010
5	R85	100Ω	2W	K & U types
		56Ω	1W	T & E types
6	R81	270Ω	2W	KR-5010
		220Ω	2W	KR-4010
7	R92	for K type		
8	Meter amp section is for KR-5010.			

Q1~4 :2SK163(L) or 2SK136(Q)
Q5,6 :2SA872(E) or 2SA872A(E)
Q7,8 :2SC1775(E,F) or 2SC1775A(E,F)
Q9 :2SC1845(F,E)
Q10 :2SC945(Q,P) or 2SD767(Q,R)
Q11,13 :2SC2003(L,K)
Q12 :2SD762 or 2SD330
Q14 :2SA954(L,K)
TH1,2 :SDT-65
D1~4 :1S2076 or 1S1555
D5 :1S2076A
D6 :W06B
D :YZ-140
D8,9 :XZ-225
D10~13:GP-25D or U05C(S)
IC1 :TA-1001
IC2,3 :STK-0040AT (KR-4010)
STK-0050AT (KR-5010)

KENWOOD

DC STEREO RECEIVER

TUNER (X05-1680-11) (A/2)

FRONT END (W02-0023-05)

AUDIO (X09-1360-11) (A/2)

X09-1360-10 (F/6)

X09-1360-10 (E/6)

X05-1680-10 (B/2)

Q1~4 : 2SK163 (L) or 2SK136 (Q)
Q5, 6 : 2SA872 (E) or 2SA872A (E)
Q7, 8 : 2SC1775 (E, F) or 2SC1775A (E, F)
Q9 : 2SC1845 (F, E)
Q10 : 2SC945 (Q, P) or 2SD767 (Q, R)
Q11, 13 : 2SC2003 (L, K)

Q12 : 2SD762 or 2SD330
Q14 : 2SA954 (L, K)
TH1, 2 : SDT-65
D1~4 : 1S2076 or 1S1555
D5 : 1S2076A
D6 : W068

D7 : YZ-140
D8, 9 : XZ-225
D10~13 : GP-25D or U05C (S)

IC1 : TA-1001
IC2, 3 : STK-0040AT

Q1 : 2SC1675 (L, K)
Q2, 3, 6, 7 : 2SC945 (R, Q) or 2SD767 (Q, R)
Q4, 5 : 2SA978 (E, F)
Q8, 9 : 2SC1775 (E, F) or 2SC1775A (E, F)

IC1 : HA1137W-05
IC2 : HA1197 or LA1240
IC3 : HA1196-01

D1, 3, 5~8 : 1S1555 or 1S2076
D2 : 1S1555

Regional circuit modifications

	X05-1680-□□			
	0-11	2-72	0-82	0-52
C43, 44	.0015	.001	×	.001
C47, 48	.0015	.0015	.0018	.0015

Modifications for (X05-1680-82)

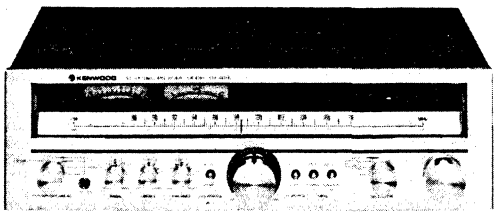
(X09-1360-52) (T) TYPE

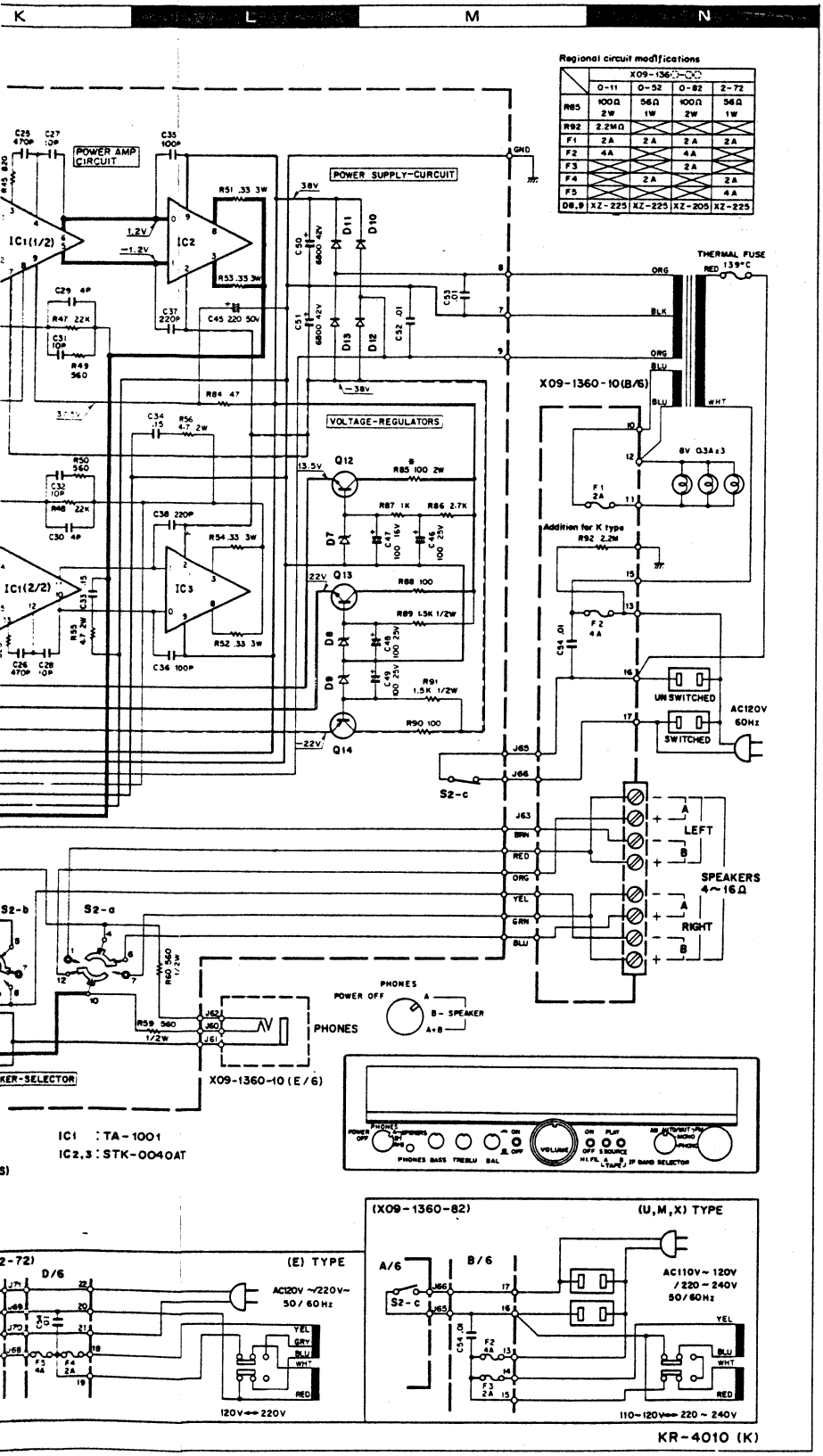
(X09-1362-72) (E) TYPE

2SA640 2SA750 2SA777 2SA872 2SA872A 2SA954
2SC945 2SC1222 2SC1400 2SC1509 2SC1675 2SC1775
2SC1775A 2SC1845 2SC1890 2SC1890A 2SC2003 2SD767
2SD330 2SD525 2SD726 2SD762
2SA850 2SA978 2SC1735
2SK55
2SK68A 2SK136 2SK163
HA1137W HA1197 HA1196
TA-1001
STK-0040AT
2SK61
2SC535
2SC381

DC

KR-4010





DC voltages are measured with 20 kΩ/v VOM.

AMPLIFIER SECTION

Power Output

35 watts* per channel, minimum RMS at 8 ohms, from 20 Hz to 20,000 Hz with no more than 0.03% total harmonic distortion.

Both Channels Driven	40 + 40 watts 8 ohms at 1,000 Hz 45 + 45 watts 4 ohms at 1,000 Hz
Dynamic Power Output	150 watts 4 ohms
Total Harmonic Distortion	0.03% at rated power into 8 ohms 0.009% at 1/2 rated power into 8 ohms
Intermodulation Distortion (60 Hz : 7 kHz = 4 : 1)	0.02% at rated power into 8 ohms
Power Bandwidth	7 Hz to 35,000 Hz
Damping Factor	28 at 8 ohms
Speaker Impedance	Accept 4 ohms to 16 ohms
Input Sensitivity/Impedance/Signal to Noise Ratio (IHF A Curve)	
Phono	2.5 mV/50 kohms/81 dB
Tape	150 mV/50 kohms/104 dB
Maximum Input Level for Phono	140 mV (rms). T.H.D. 0.03% at 1,000 Hz
Output Level/Impedance	
Tape REC (Pin)	150 mV/300 ohms
(DIN)	30 mV/80 kohms
Frequency Response	
Phono	RIAA standard curve(20Hz to 20kHz) ±0.3dB
Tape	5 Hz to 170,000 Hz +0.5 dB, −3.0 dB
Tone Control	
Bass	±8 dB at 100 Hz
Treble	±8 dB at 10,000 Hz
Loudness Control (−30 dB)	10 dB at 100 Hz
High Filter	−3 dB at 3 kHz

FM TUNER SECTION (IHF)

Usable Sensitivity	10.3 dBf (1.8μV)
50 dB Quieting Sensitivity	
(Mono)	16.1 dBf (3.5μV)
(Stereo)	37.9 dBf (43μV)
Signal to Noise Ratio at 65 dBf	
(Mono)	76 dB
(Stereo)	70 dB (72 dB at 85 dBf)
T.H. Distortion at 65 dBf	
(Mono)	0.08%
(Stereo)	0.09%
Frequency Response	30 Hz to 15,000 Hz+0.5 dB, −2.0 dB
Capture Ratio	1.0 dB
Alternate Channel Selectivity	50 dB
Spurious Response Ratio	80 dB
Image Response Ratio	53 dB
IF Response Ratio (Balanced)	90 dB
AM Suppression Ratio	65 dB (at 65 dBf)
Stereo Separation	48 dB at 1,000 Hz 40 dB at 100 Hz to 10,000 Hz
Sub Carrier Product Ratio	50 dB
Antenna Impedance	300 ohms and 75 ohms
FM Frequency Range	88 MHz to 108 MHz

AM TUNER SECTION

Usable Sensitivity	10 μV
Signal to Noise Ratio	52 dB
Image Rejection	50 dB
Selectivity	50 dB

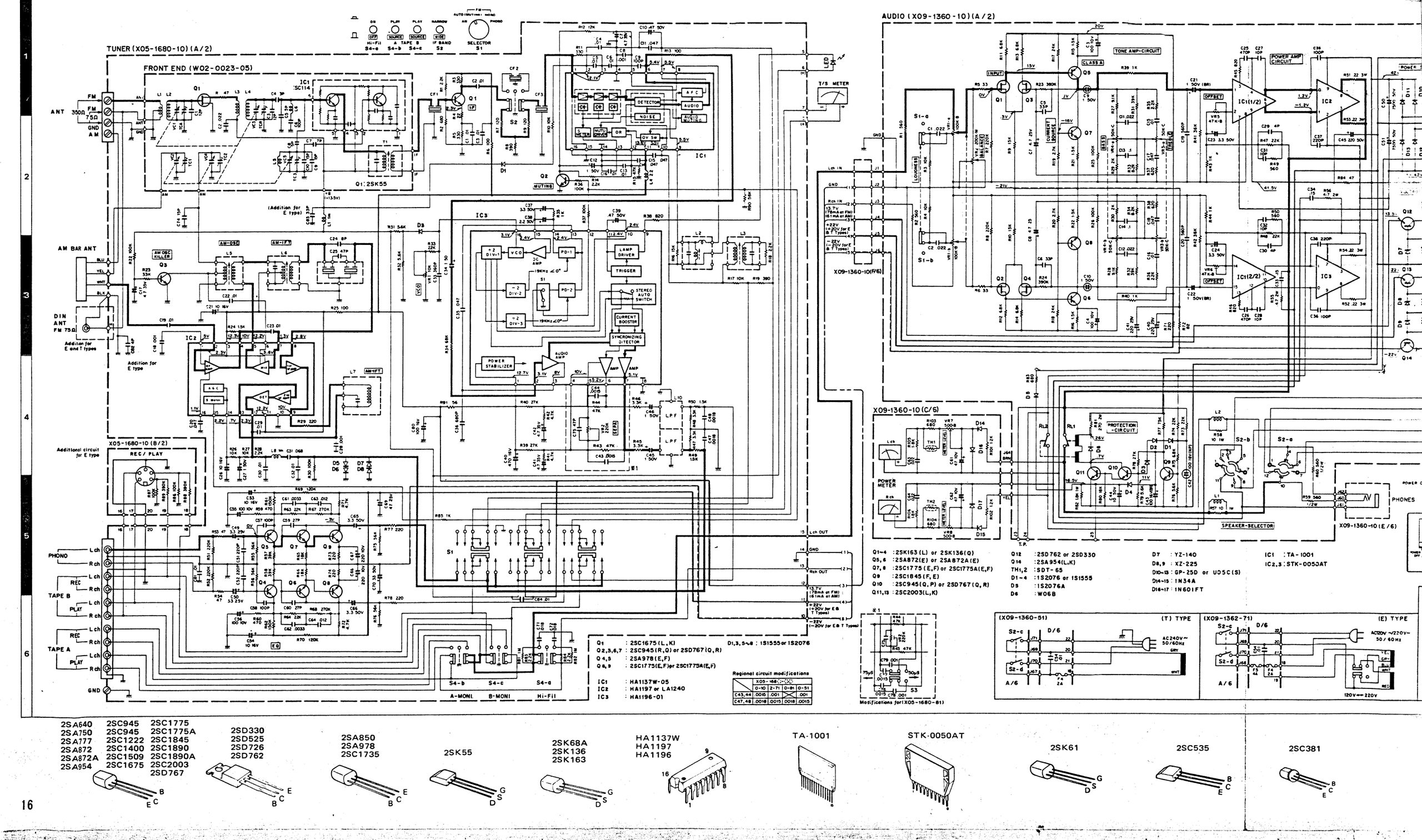
GENERAL

Power Consumption	280 W (IEC) 3A (UL & CSA) 180 W (8 ohms at Rated Power) 27.5W (Non Signal)
A.C. Outlet	Switched 1, Unswitched 1
Dimensions	W: 471 mm (18-1/2") H: 139 mm (5-1/2") D: 358 mm (14-1/8")
Weight (Net)	18.3 lb (8.3 kg)

Note:
Kenwood follows a policy of continuous advancements in development
For this reason, specifications may be changed without notice.

KENWOOD

DC STEREO RECEIVER



Q1 : 2SC1675 (L, K)
Q2,3,6,7 : 2SC945 (R, Q) or 2SD767 (Q, R)
Q4,5 : 2SA978 (E, F)
Q8,9 : 2SC1775 (E, F) or 2SC1775A (E, F)

IC1 : HA1137W-05
IC2 : HA1197 or LA1240
IC3 : HA1196-01

D1,3,5~8 : 1S1555 or 1S2076

Regional circuit modifications

	X05-1680-□□			
	0-10	2-71	0-81	0-51
C43,44	.0015	.001	✕	.001
C47,48	.0018	.0015	.0018	.0015

Q1~4 : 2SK163 (L) or 2SK136 (Q)
Q5, 6 : 2SA872 (E) or 2SA872A (E)
Q7, 8 : 2SC1775 (E, F) or 2SC1775A (E, F)
Q9 : 2SC1845 (F, E)
Q10 : 2SC945 (Q, P) or 2SD767 (Q, R)
Q11, 13 : 2SC2003 (L, K)

Q12 : 2SD762 or 2SD330
Q14 : 2SA954 (L, K)
TH1, 2 : SDT-65
D1~4 : 1S2076 or 1S1555
D5 : 1S2076A
D6 : W06B

D7 : YZ-140
D8, 9 : XZ-225
D10~13 : GP-25D or U05C (S)
D14~15 : 1N34A
D16~17 : 1N601FT

IC1 : TA-1001
IC2, 3 : STK-0050AT

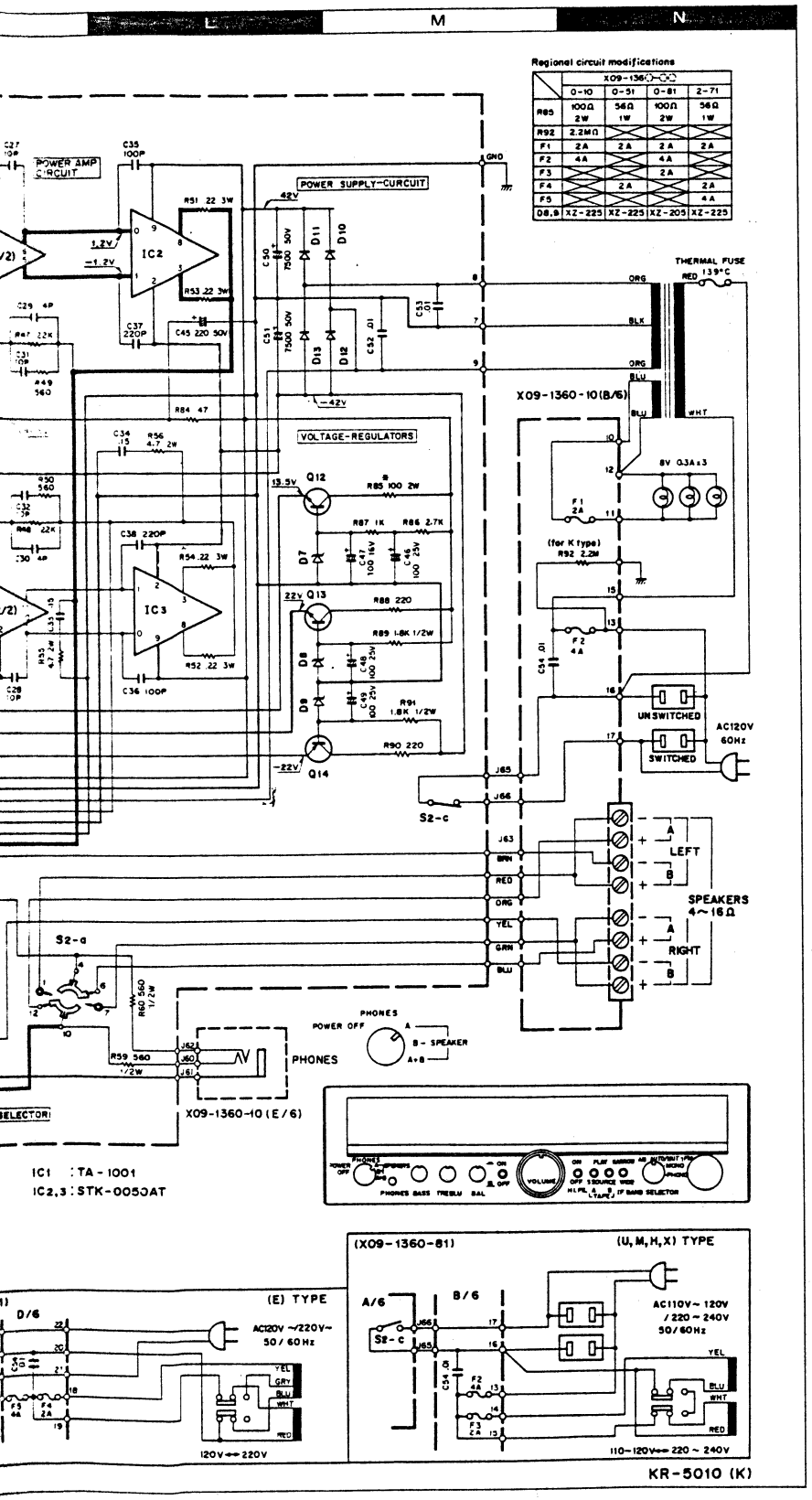
Modifications for (X05-1680-81)

(X09-1360-51) (T) TYPE

(X09-1362-71) (E) TYPE

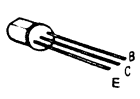
2SA640 2SA750 2SA777 2SA872 2SA872A 2SA954
2SC945 2SC945 2SC1222 2SC1400 2SC1509 2SC1675
2SC1775 2SC1775A 2SC1845 2SC1890 2SC1890A 2SC2003 2SD767
2SD330 2SD525 2SD726 2SD762
2SA850 2SA978 2SC1735
2SK55
2SK68A 2SK136 2SK163
HA1137W HA1197 HA1196
TA-1001
STK-0050AT
2SK61
2SC535
2SC381

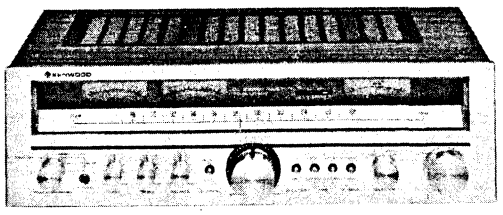
(KR-5510) KR-5010



DC voltages are measured with 20 kΩ/v VOM.

2SC381





AMPLIFIER SECTION

Power Output

45 watts* per channel, minimum RMS at 8 ohms, from 20 Hz to 20,000 Hz with no more than 0.03% total harmonic distortion.

Both Channels Driven	50 + 50 watts 8 ohms at 1,000 Hz
	52 + 52 watts 4 ohms at 1,000 Hz
Dynamic Power Output	190 watts 4 ohms
Total Harmonic Distortion	0.03% at rated power into 8 ohms
	0.009% at 1/2 rated power into 8 ohms
Intermodulation Distortion (60 Hz : 7 kHz = 4 : 1)	0.02% at rated power into 8 ohms
Power Bandwidth	7 Hz to 35,000 Hz
Damping Factor	28 at 8 ohms
Speaker Impedance	Accept 4 ohms to 16 ohms
Input Sensitivity/Impedance/Signal to Noise ratio (IHF A Curve)	
Phono	2.5 mV/50 kohms/82 dB
Tape	150 mV/50 kohms/105 dB
Maximum Input Level for Phono	140 mV (rms). T.H.D. 0.03% at 1,000 Hz
Output Level/Impedance	
Tape REC (Pin)	150 mV/300 ohms
(DIN)	30 mV/80 kohms
Frequency Response	
Phono	RIAA standard curve(20Hz to20kHz) ±0.3dB
Tape	5 Hz to 170,000 Hz +0.5 dB, −3.0 dB
Tone Control	
Bass	±8 dB at 100 Hz
Treble	±8 dB at 10,000 Hz
Loudness Control (−30 dB)	10 dB at 100 Hz
High Filter	−3 dB at 3 kHz

FM TUNER SECTION (IHF)

Usable Sensitivity	10.3 dBf (1.8μV)
50 dB Quieting Sensitivity	
(Mono)	16.1 dBf (3.5μV)
(Stereo)	37.9 dBf (43μV)
Signal to Noise Ratio at 65 dBf	
(Mono)	76 dB
(Stereo)	70 dB (72 dB at 85 dBf)
T.H. Distortion at 65 dBf	
(Mono)	0.08%
(Stereo)	0.09%
Frequency Response	30 Hz to 15,000 Hz +0.5 dB, −2.0 dB
Capture Ratio	1.0 dB
Alternate Channel Selectivity	50 dB Wide at 400 kHz
Spurious Response Ratio	80 dB
Image Response Ratio	53 dB
IF Response Ratio (Balanced)	90 dB
AM Suppression Ratio	65 dB (at 65dBf)
Stereo Separation	48 dB at 1,000 Hz Wide
	40 dB at 100 Hz to 10,000 Hz Wide
Sub Carrier Product Ratio	50 dB
Antenna Impedance	300 ohms and 75 ohms
FM Frequency Range	88 MHz to 108 MHz

AM TUNER SECTION

Usable Sensitivity	10μV
Signal to Noise Ratio	52 dB
Image Rejection	50 dB
Selectivity	50 dB

GENERAL

Power consumption	330 W (IEC)
	3.5 A (UL & CSA)
	210 W (8 ohms at Rated Power)
	27.5 W (Non Signal)
A.C. Outlet	Switched 1, Unswitched 1
Dimensions	W: 471 mm (18-1/2")
	H: 139 mm (5-1/2")
	D: 358 mm (14-1/8")
Weight (Net)	19.0 lb (8.6 kg)

*Measured pursuant to Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier in U.S.A.

PARTS LIST

See instructions at the end of the parts list.

KR-4010, 5010, 5510 (UNIT)

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Remarks 備考
1 1B	-	METALLIC FRAME	
2 1B	-	REAR PANEL	
3 3B	-	BOTTOM PLATE	
4 1B	-	MOUNTING HARDWARE	
5 3B	-	MOUNTING HARDWARE	
-	351-0003-14	DIAL CORD	
7 1A	A03-0242-03	WOODEN CABINET (WALNUT)	*
7 1A	A03-0242-03	WOODEN CABINET (WALNUT)	TX
7 1A	A03-0242-03	WOODEN CABINET (WALNUT)	UM
7 1A	A03-0242-03	WOODEN CABINET (WALNUT)	H
7 1A	A03-0243-03	WOODEN CABINET (BLACK)	*E
7 1A	A03-0246-03	WOODEN CABINET (WALNUT)	*P
8 3A	A20-1431-03	FRONT PANEL ASSY KR5010	*K
8 3A	A20-1431-03	FRONT PANEL ASSY KR5010	PM
8 3A	A20-1431-03	FRONT PANEL ASSY KR5010	XU
8 3A	A20-1431-03	FRONT PANEL ASSY KR5010	E
8 3A	A20-1432-03	FRONT PANEL ASSY KR5510	*H
8 3A	A20-1433-03	FRONT PANEL ASSY KR5010	*T
8 3A	A20-1437-03	FRONT PANEL ASSY KR4010	*K
8 3A	A20-1437-03	FRONT PANEL ASSY KR4010	PM
8 3A	A20-1437-03	FRONT PANEL ASSY KR4010	XU
8 3A	A20-1437-03	FRONT PANEL ASSY KR4010	E
8 3A	A20-1438-03	FRONT PANEL ASSY	*T
9 2A	A30-0169-08	DIAL BACK BOARD	*
-	B46-0055-20	PASSED STICKER	
-	B46-0060-00	WARRANTY CARD	T
-	B46-0061-20	WARRANTY CARD	K
-	B46-0062-20	WARRANTY CARD	UH
-	B46-0063-00	WARRANTY CARD	U
-	B46-0064-00	WARRANTY CARD	X
-	B50-1864-00	INSTRUCTION MANUAL	*K
-	B50-1864-00	INSTRUCTION MANUAL	U
-	B50-1865-00	INSTRUCTION MANUAL	PM
-	B50-1865-00	INSTRUCTION MANUAL	X
-	B50-1866-00	INSTRUCTION MANUAL	*H
-	B50-1867-00	INSTRUCTION MANUAL	*T
-	B50-1868-00	INSTRUCTION MANUAL	*E
-	B59-0018-00	INSTRUCTION PRINT	U
10 3A	B01-0140-04	PANEL ESCUTCHEON	*K
10 3A	B01-0140-04	PANEL ESCUTCHEON	PM
10 3A	B01-0140-04	PANEL ESCUTCHEON	TX
10 3A	B01-0140-04	PANEL ESCUTCHEON	UE
10 3A	B01-0141-04	PANEL ESCUTCHEON	*H
11 3A	B01-0142-04	PANEL ESCUTCHEON X2	*K
11 3A	B01-0142-04	PANEL ESCUTCHEON X2	PM
11 3A	B01-0142-04	PANEL ESCUTCHEON X2	TX
11 3A	B01-0142-04	PANEL ESCUTCHEON X2	UE
11 3A	B01-0143-04	PANEL ESCUTCHEON X2	*H
12 1A	B04-0067-04	MESH PLATE	*K
12 1A	B04-0067-04	MESH PLATE	TX
12 1A	B04-0067-04	MESH PLATE	UM
12 1A	B04-0067-04	MESH PLATE	H
12 1A	B04-0071-04	MESH PLATE	*E
12 1A	B04-0072-04	MESH PLATE	*P
13 3A	B07-0279-04	ESCUTCHEON	*
14 3A	B07-0280-04	ESCUTCHEON	*
15 3A	B07-0281-04	ESCUTCHEON (KR-4010)	*
15 3A	B07-0281-04	ESCUTCHEON X2 (KR-5010)	
16 2A	B08-0007-04	INDICATOR (STEREO)	*
17 3A	B10-0247-04	FRONT GLASS	*
18 1A	B19-0206-02	LIGHTING PLATE	*
19 2A	B20-0445-02	DIAL CALIBRATIONS	*K
19 2A	B20-0445-02	DIAL CALIBRATIONS	PM
19 2A	B20-0445-02	DIAL CALIBRATIONS	TX
19 2A	B20-0445-02	DIAL CALIBRATIONS	UE
19 2A	B20-0446-02	DIAL CALIBRATIONSKR4010	*
19 2A	B20-0450-02	DIAL CALIBRATIONS	*H
20 3A	B21-0034-04	DIAL POINTER	*
21 2A	B30-0182-15	LED	*
22 2A	B30-0192-05	LAMP 0.3A X2	*
23 2A	B30-0193-05	LAMP 0.3A	*
24 2A	B31-0303-05	T/S METER (KR-5010)	*
25 2A	B31-0304-05	POWER METER X2(KR-5010)	*
26 1A	B31-0305-05	T METER (KR-4010)	*
27 1A	B31-0306-05	S METER (KR-4010)	*
28 2B	D15-0164-04	PULLEY	
29 2A	D15-0174-05	PULLEY X2	
30 3B	D15-0175-05	PULLEY X3	*
31 2B	D20-0502-13	DIAL SHAFT	
32 1B	E03-0008-05	AC OUTLET X2	KP
32 1B	E03-0017-05	AC OUTLET X2	MX
32 1B	E03-0017-05	AC OUTLET X2	UH
33 1B	E04-0004-05	RECEPTACLE	TE
34 1B	E30-0181-05	POWER CORD	KP
34 1B	E30-0185-05	POWER CORD	X
34 1B	E30-0459-05	POWER CORD	EH
34 1B	E30-0545-05	POWER CORD	ME
34 1B	E30-0602-05	POWER CORD	T
35 2B	G01-0045-24	COIL SPRING	
-	H01-3029-04	CARTON BOX (KR-5010)	*K
-	H01-3029-04	CARTON BOX (KR-5010)	MX
-	H01-3029-04	CARTON BOX (KR-5010)	U
-	H01-3030-04	CARTON BOX (KR-5010)	*P
-	H01-3031-04	CARTON BOX (KR-5010)	*T
-	H01-3032-04	CARTON BOX (KR-5510)	*H
-	H01-3033-04	CARTON BOX (KR-4010)	*K
-	H01-3033-04	CARTON BOX (KR-4010)	MX
-	H01-3033-04	CARTON BOX (KR-4010)	U
-	H01-3034-04	CARTON BOX (KR-4010)	*P
-	H01-3035-04	CARTON BOX (KR-4010)	*T
-	H01-3048-04	CARTON BOX (KR-4010)	*E
-	H01-3049-04	CARTON BOX (KR-5010)	*E
-	H10-1534-02	POLYSTYRENE FIXTURE X2	*
-	H20-0417-04	COVER	M
-	H20-0454-04	COVER	KP
-	H20-0454-04	COVER	TX
-	H20-0454-04	COVER	UE
-	H20-0454-04	COVER	H
-	H25-0078-04	BAG	
36 3B	J02-0103-05	FOOT X4	*
37 2A	J19-0306-05	LEAD HOLDER	
38 1B	J19-0507-05	ANTENNA HOLDER	
39 3A	J32-0254-14	HEX BOSS	*
40 1B	J41-0034-05	POWER CORD BUSHING	KP
40 1B	J42-0083-05	POWER CORD BUSHING	MU
40 1B	J42-0084-05	POWER CORD BUSHING	EH
40 1B	J42-0085-05	POWER CORD BUSHING	TX
41 2A	J61-0045-15	WIRE BAND	
42 3A	J90-0093-04	RAIL	*

PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Remarks 備考
43 3A	K23-0327-04	KNOB (TUNING)	*
44 2B	K27-0096-04	KNOB(PUSH) X3	*
45 2A	K27-0097-04	KNOB(PUSH)	*
46 2B	K27-0098-04	KNOB(PUSH) (KR-5010)	*
47 3A	K29-0309-04	KNOB (VOLUME)	*
48 3A	K29-0310-04	KNOB (SEL,POWER) X2	*
49 3A	K29-0311-04	KNOB (TONE,BALANCE) X3	*
50 1B	L01-1761-05	POWER TRANS. (KR-5010)	*K
50 1B	L01-1762-05	POWER TRANS. (KR-5010)	*T
50 1B	L01-1765-05	POWER TRANS. (KR-5010)	*U
50 1B	L01-1765-05	POWER TRANS. (KR-5010)	MX
50 1B	L01-1765-05	POWER TRANS. (KR-5510)	H
50 1B	L01-1766-05	POWER TRANS. (KR-5010)	*E
50 1B	L01-1767-05	POWER TRANS. (KR-5010)	*P
50 1B	L01-1771-05	POWER TRANS. (KR-4010)	*K
50 1B	L01-1772-05	POWER TRANS. (KR-4010)	*T
50 1B	L01-1775-05	POWER TRANS. (KR-4010)	*U
50 1B	L01-1775-05	POWER TRANS. (KR-4010)	MX
50 1B	L01-1776-05	POWER TRANS. (KR-4010)	*E
50 1B	L01-1777-05	POWER TRANS. (KR-4010)	*P
51A 1B	N08-0128-35	GND SCREW	
51B 1B	N09-0303-05	SCREW M3X6	
51C 1A	N09-0308-05	SCREW M4X12(BLACK)	
52 1B	S31-2050-05	SLIDE SWITCH	MX
52 1B	S31-2050-05	SLIDE SWITCH	UE
52 1B	S31-2050-05	SLIDE SWITCH	H
53 2B	S90-0020-05	SWITCH SHAFT (KR-5010)	*
53 2B	S90-0022-05	SWITCH SHAFT (KR-4010)	*
54 1B	T90-0083-05	AM ANTENNA	
55 1A	T90-0202-05	FM ANTENNA	
56 2B	X05-1680-10	TUNER PCB ASSY(KR-5010)	*K
56 2B	X05-1680-10	TUNER PCB ASSY(KR-5010)	P
56 2B	X05-1680-11	TUNER PCB ASSY(KR-4010)	*K
56 2B	X05-1680-11	TUNER PCB ASSY(KR-4010)	P
56 2B	X05-1680-51	TUNER PCB ASSY(KR-5010)	*T
56 2B	X05-1680-51	TUNER PCB ASSY(KR-5010)	X
56 2B	X05-1680-52	TUNER PCB ASSY(KR-4010)	*T
56 2B	X05-1680-52	TUNER PCB ASSY(KR-4010)	X
56 2B	X05-1680-81	TUNER PCB ASSY(KR-5010)	*M
56 2B	X05-1680-81	TUNER PCB ASSY(KR-5010)	UH
56 2B	X05-1680-82	TUNER PCB ASSY(KR-4010)	*M
56 2B	X05-1680-82	TUNER PCB ASSY(KR-4010)	U
56 2B	X05-1682-71	TUNER PCB ASSY(KR-5010)	*E
56 2B	X05-1682-72	TUNER PCB ASSY(KR-4010)	*E
57 2B	X09-1360-10	AUDIO PCB ASSY(KR-5010)	*K
57 2B	X09-1360-10	AUDIO PCB ASSY(KR-5010)	P
57 2B	X09-1360-11	AUDIO PCB ASSY(KR-4010)	*K
57 2B	X09-1360-11	AUDIO PCB ASSY(KR-4010)	P
57 2B	X09-1360-51	AUDIO PCB ASSY(KR-5010)	*T
57 2B	X09-1360-52	AUDIO PCB ASSY(KR-4010)	*T
57 2B	X09-1360-81	AUDIO PCB ASSY(KR-5010)	*M
57 2B	X09-1360-81	AUDIO PCB ASSY(KR-5010)	XU
57 2B	X09-1360-81	AUDIO PCB ASSY(KR-5010)	H
57 2B	X09-1360-82	AUDIO PCB ASSY(KR-4010)	*M
57 2B	X09-1360-82	AUDIO PCB ASSY(KR-4010)	XU
57 2B	X09-1362-71	AUDIO PCB ASSY(KR-5010)	*E
57 2B	X09-1362-72	AUDIO PCB ASSY(KR-4010)	*E
TUNER (X05-168)			
101 3B	-	METALLIC FRAME	

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Remarks 備考
C1	C55-1710-38	CERAMIC 0.01UF Z	
C2	C55-1710-38	CERAMIC 0.01UF Z	#1
C3 -6	C55-1710-38	CERAMIC 0.01UF Z	
C7	C24-6547-51	ELECTRO 4.7UF 35WV	
C8	C52-1710-26	CERAMIC 0.001UF K	
C9	C71-1710-15	CERAMIC 100PF J	
C10	C24-1747-41	ELECTRO 0.47UF 50WV	
C11	C55-1747-38	CERAMIC 0.047UF Z	
C12	C24-1710-51	ELECTRO 1UF 50WV	
C13	C55-1710-38	CERAMIC 0.01UF Z	
C14 ,15	C55-1747-38	CERAMIC 0.047UF Z	
C16	C55-1710-38	CERAMIC 0.01UF Z	
C17	C24-6547-51	ELECTRO 4.7UF 35WV	
C18	C52-1710-26	CERAMIC 0.001UF K	
C19	C55-1710-38	CERAMIC 0.01UF Z	
C20	C55-1747-38	CERAMIC 0.047UF Z	
C21	C24-1210-61	ELECTRO 10UF 16WV	
C22	C90-0245-05	CERAMIC 0.01UPF M	
C23	C55-1710-38	CERAMIC 0.01UF Z	
C24	C71-1708-02	CERAMIC 8PF D	
C25	C71-1747-05	CERAMIC 47PF J	
C26	C24-1210-61	ELECTRO 10UF 16WV	
C27	C24-1710-51	ELECTRO 1UF 50WV	
C28	C52-1710-26	CERAMIC 0.001UF K	
C29 ,30	C90-0245-05	CERAMIC 0.01UPF M	
C31	C46-1768-36	MYLAR 0.068UF K	
C32	C90-0245-05	CERAMIC 0.01UPF M	
C33	C48-1736-15	POLYSTY 360PF J	
C34	C24-1710-51	ELECTRO 1UF 50WV	
C35	C46-1747-36	MYLAR 0.047UF K	
C36	C52-1768-16	CERAMIC 680PF K	
C37	C24-1722-51	ELECTRO 3.3UF 50WV	
C38	C24-1722-51	ELECTRO 2.2UF 50WV	
C39	C24-1747-41	ELECTRO 0.47UF 50WV	
C40	C24-1247-71	ELECTRO 470UF 16WV	
C41 ,42	C24-6547-51	ELECTRO 4.7UF 35WV	
C43 ,44	C46-1710-25	MYLAR 0.001UF J	ET
C43 ,44	C46-1715-25	MYLAR 0.0015UF J	K
C45 ,46	C24-1710-51	ELECTRO 1UF 50WV	
C47 ,48	C46-1715-25	MYLAR 0.0015UF J	ET
C47 ,48	C46-1718-25	MYLAR 0.0018UF J	KU
C49 ,50	C25-1433-57	LL-ELEC 3.3UF 25WV	
C51 ,52	C71-1722-15	CERAMIC 220PF J	
C53 ,54	C24-1210-61	ELECTRO 10UF 16WV	
C55 ,56	C24-1010-71	ELECTRO 100UF 10WV	
C57 ,58	C71-1710-15	CERAMIC 100PF J	
C59 ,60	C71-1727-05	CERAMIC 27PF J	
C61 ,62	C46-1733-25	MYLAR 0.0033UF J	
C63 ,64	C46-1712-35	MYLAR 0.012UF J	
C65 ,66	C24-1722-51	ELECTRO 3.3UF 50WV	
C67 ,68	C24-1022-71	ELECTRO 220UF 10WV	
C69	C24-1447-61	ELECTRO 47UF 25WV	
C70	C24-1433-61	ELECTRO 33UF 25WV	
C71 ,72	C46-1718-36	MYLAR 0.018UF K	
C73	C24-1010-71	ELECTRO 100UF 10WV	#2
C74	C70-1715-05	CERAMIC 15PF J	
C75	C71-1747-05	CERAMIC 47PF J	
C76 ,77	C46-1715-25	MYLAR 0.0015UF J	U
C78 ,79	C46-1710-25	MYLAR 0.001UF J	U
C80	C24-1210-71	ELECTRO 100UF 16WV	
C81	C55-1710-38	CERAMIC 0.01UF Z	
C82	C71-1704-01	CERAMIC 4PF C	E

PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Remarks 備考
C23 ,24	C24-1733-51	ELECTRO 3.3UF 50WV	
C25 ,26	C52-1747-16	CERAMIC 470PF K	
C27 ,28	C71-1710-02	CERAMIC 10PF D	
C29 ,30	C71-1704-01	CERAMIC 4PF C	
C31 ,32	C71-1710-02	CERAMIC 10PF D	
C33 ,34	C46-1715-47	MYLAR 0.15UF M	
C35 ,36	C71-1710-15	CERAMIC 100PF J	
C37 ,38	C71-1722-15	CERAMIC 220P J	
C40 ,41	C24-1422-71	ELECTRO 220UF 25WV	
C42	C26-1210-77	NP-ELEC 100UF 16WV	
C43	C25-1210-77	LL-ELEC 100UF 16WV	*
C44	C24-1710-61	ELECTRO 10UF 50WV	
C45	C24-1722-71	ELECTRO 220UF 50WV	
C46	C24-1410-71	ELECTRO 100UF 25WV	
C47	C24-1210-71	ELECTRO 100UF 16WV	
C48 ,49	C24-1410-71	ELECTRO 100UF 25WV	
C50 ,51	C90-0338-05	ELECTRO 6800UF 42WV	#2
C50 ,51	C90-0359-05	ELECTRO 7500UF 50WV	#1
C52,53	C54-2710-39	CERAMIC 0.01UF P	
C54	C51-3310-39	CERAMIC 0.01UF P	ET
C54	C91-0023-05	CERAMIC 0.01UF	U
C54	C91-0079-05	CERAMIC 0.01UF	K
C61 ,62	C24-1047-61	ELECTRO 47UF 10WV	#1
C63 ,64	C46-1722-36	MYLAR 0.022UF K	#1
115 2A	E11-0060-15	PHONE JACK	
116 1B	E20-0812-05	TERMINAL BOARD (8P)	
-	F01-0294-04	HEAT SINK (2SD762)	
-	F09-0033-05	CAPACITOR COVER	ET
118 2B	F01-0308-03	HEAT SINK *	#1
118 2B	F01-0309-03	HEAT SINK *	#2
F1	F05-2021-05	FUSE UL 2A	K
F1	F05-2023-05	FUSE 2A	U
F1	F05-2029-05	FUSE SEMKO 2A	ET
F2	F05-4021-05	FUSE 4L 4A	K
F3	F05-2023-05	FUSE 2A	U
F4	F05-2029-05	FUSE SEMKO 2A	ET
F5	F05-4024-05	FUSE SEMKO 4A	E
-	J13-0041-05	FUSE CLIP X4	K
-	J13-0041-05	FUSE CLIP X6	U
-	J13-0054-05	FUSE CLIP X4	T
-	J13-0054-05	FUSE CLIP X6	E
121 2A	J32-0253-14	HEX BOSS	*
L1 ,2	L39-0085-05	COIL	
122 2B	N09-0309-05	SCREW X6	*
R51 -54	R92-0113-05	METAL PLATED 33 3W	#2
R51 -54	R92-0167-05	METAL PLATED 22 3W	#1
R55 ,56	R47-5547-95	FL-PROOF RS4.7 J 3D	
R57 ,58	R47-5410-05	FL-PROOF RS10 J 3A	
R59 ,60	R40-8356-16	RC 560 K 2H	
R71	R43-1222-15	FL-PROOF RD220 J 2E	
R72	R43-1282-05	FL-PROOF RD82 J 2E	
R81	R47-5522-15	FL-PROOF RS220 J 3D	#2
R81	R47-5527-15	FL-PROOF RS270 J 3D	#1
R82	R47-5418-25	FL-PROOF RS1.8K J 3A	
R83	R43-1268-15	FL-PROOF RD680 J 2E	
R84	R43-1247-05	FL-PROOF RD47 J 2E	
R85	R47-5510-15	FL-PROOF RS100 J 3D	KU
R85	R92-0200-05	FL-PROOF RS56 3A	ET
R88	R43-1210-15	FL-PROOF RD100 J 2E	#2

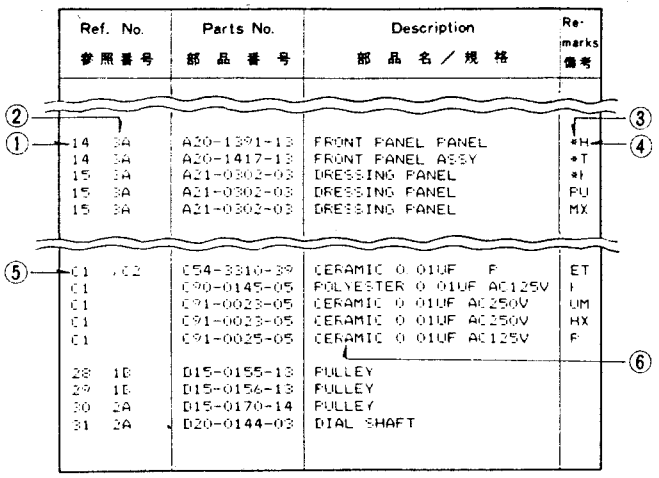
Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Remarks 備考
C83	C71-1733-05	CERAMIC 33PF J	E
C84	C55-1710-38	CERAMIC 0.01UF Z	
104 1B	E06-0510-05	DIN CONNECTOR	E
105 2B	E13-0423-05	PHONO JACK (4P)	
106 2B	E13-0612-05	PHONO JACK (6P)	
107 1B	E20-0439-05	TERMINAL BOARD	*
CF1 ,3	L72-0052-15	FM CERAMIC FILTER	K2
CF1 ,3	L72-0052-15	FM CERAMIC FILTER	U2
CF1 ,3	L72-0059-05	FM CERAMIC FILTER	T2
CF1 ,3	L72-0059-05	FM CERAMIC FILTER	E2
CF1 -3	L79-0102-05	FM CERAMIC FILTER ASSY*	#1
CF4	L72-0078-05	AM CERAMIC FILTER	
L1	L40-1021-45	INDUCTOR 1MH	
L2	L30-0316-05	FM IFT	
L3	L30-0317-05	FM IFT	
L4	L40-2292-44	INDUCTOR 2.2UH	
L5	L32-0225-05	MW OSCILLATING COIL	
L6	L30-0329-05	AM IFT	
L7	L30-0284-05	AM IFT	
L8	L40-1021-45	INDUCTOR 1MH	
L10	L79-0072-05	LC FILTER	
R6	R43-1210-15	FL-PROOF RD100 J 2E	
R25	R43-1210-15	FL-PROOF RD100 J 2E	
R73 ,74	R40-8322-16	RC 220 K 2H	ET
R91	R43-1256-05	FL-PROOF RD56 J 2E	
VR1	R12-3045-05	TRIMMING POT. 10KOHM(B)	
VR2	R12-5031-05	TRIMMING POT. 220KOHM(B)	
S1	S90-0019-05	SLIDE SWITCH FIG201	#1
S1	S90-0021-05	SLIDE SWITCH FIG201	#2
S2	S40-2087-05	PUSH SWITCH FIG202	#1
S3	S31-2052-05	SLIDE SWITCH(EMPHASIS)	U
S4	S42-3029-05	PUSH SWITCH FIG203	*
D1	V11-0076-05	1S1555, 1S2076	
D2	V11-0076-05	1S1555	#2
D3	V11-0076-05	1S1555, 1S2076	
D5 -8	V11-0076-05	1S1555, 1S2076	
IC1	V30-0192-05	HA1137W-05	
IC2	V30-0196-05	HA1197	
IC3	V30-0193-05	HA1196-01	
Q1	V03-1675-10	2SC1675(L,K)	
Q2 ,3	V03-0270-05	2SC945(R,Q), 2SD767(Q,R)	
Q4 ,5	V01-0978-40	2SA978(E,F)	
Q6 ,7	V03-0270-05	2SC945(R,Q), 2SD767(Q,R)	
Q8 ,9	V03-0477-05	2SC1775(E,F)2SC1775A(EF	
108 2B	W02-0023-05	FM FRONT END	*

AUDIO (X09-136)

111 2A	-	MAIN CHASSIS	
112 2B	-	MOUNTING HARDWARE	
C1 ,2	C46-1722-36	MYLAR 0.022UF K	
C3 ,4	C24-1010-71	ELECTRO 100UF 10WV	
C5 ,6	C71-1733-05	CERAMIC 33PF J	
C7 ,8	C24-1447-51	ELECTRO 4.7UF 25WV	
C9 ,10	C26-1710-51	NP-ELEC 1UF 50WV	
C11 ,12	C46-1722-36	MYLAR 0.022UF K	
C13 ,14	C46-1710-46	MYLAR 0.1UF K	
C15 ,16	C46-1710-36	MYLAR 0.01UF K	
C17 ,18	C46-1747-36	MYLAR 0.047UF K	
C19 ,20	C52-1756-16	CERAMIC 560PF K	
C21 ,22	C25-1710-57	LL-ELEC 1UF 50WV	

PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Remarks 備考
R88	R43-1222-15	FL-PROOF RD220 J 2E	#1
R90	R43-1210-15	FL-PROOF RD100 J 2E	#2
R90	R43-1222-15	FL-PROOF RD220 J 2E	#1
R91	R40-8315-26	RC 1.5K K 2H	#2
R91	R40-8318-26	RC 1.8K K 2H	#1
R92	R92-0173-05	RESISTOR 2.2M 2H	K
VR1	R06-5041-05	POTENTIOMETER 100K(B)X2	*
VR2	R01-5025-05	POTENTIOMETER 200K(M)	*
VR3 ,4	R06-4041-05	POTENTIOMETER 50K(C)X2	*
VR5 ,6	R12-3042-05	TRIMMING POT. 47K(B)	
VR7 ,8	R12-0047-05	TRIMMING POT. 500(B)	#1
RL1 ,2	S51-1025-05	RELAY (DC-PROTECTION)	*
S1	S40-2084-05	PUSH SWITCH FIG211	
S2	S02-1016-05	ROTARY SWITCH FIG212*	K
S2	S02-1017-05	ROTARY SWITCH FIG212*	U
S2	S02-1018-05	ROTARY SWITCH FIG212	ET
D1 -4	V11-0271-05	1S2076, 1S1555	
D5	V11-0273-05	1S2076A	
D6	V11-0295-05	W06B	
D7	V11-0254-05	YZ-140	
D9	V11-4105-20	XZ-225	KT
D9	V11-4105-20	XZ-225	E
D9	V11-4105-30	XZ-205	U
D10 -13	V11-2100-10	U05C(S), GP-25D	
D14 ,15	V11-0400-05	IN34A	#1
D16 ,17	V11-0423-05	IN60IFT	#1
IC1	V30-0338-10	TA1001 (VOLTAGE AMP)	*
IC2 ,3	V30-0339-10	STK-0040AT (POWER IC) *	#2
IC2 ,3	V30-0340-10	STK-0050AT (POWER IC) *	#1
Q1 -4	V09-0149-30	2SK136(Q), 2SK163(L)	
Q5 ,6	V01-0189-05	2SA872(E), 2SA872A(E)	
Q7 ,8	V03-1775-00	2SC1775(E,F)2SC1775A(EF	
Q9	V03-1845-10	2SC1845(F,E)	
Q10	V03-0348-05	2SC945(Q,P), 2SD767(Q,R)	
Q11	V03-2003-30	2SC2003(L,K)	
Q12	V04-0762-00	2SD762, 2SD330	
Q13	V03-2003-30	2SC2003(L,K)	
Q14	V01-0954-10	2SA954(L,K)	
TH1 ,2	V22-0006-05	SDT-65 (METER)	#1
C1	C71-1712-06	CERAMIC 12PF K	
C2	C55-1722-38	CERAMIC 0.022UF Z	
C3	C71-1712-06	CERAMIC 12PF K	
C4	C71-1703-02	CERAMIC 3PF D	
C5	C71-1705-02	CERAMIC 5PF D	
C6	C71-1710-16	CERAMIC 100PF K	
C7	C71-1707-02	CERAMIC 7PF D	
C8	C71-1705-91	CERAMIC 0.5PF C	
C9 ,10	C66-1715-02	CERAMIC 15PF D	
TC1 ,2	C05-0071-00	TRIMMER CAPACITOR	
TC3	C05-0075-00	TRIMMER CAPACITOR	
L6	L33-0273-00	CHOKE COIL	*
T1	L30-0325-00	IFT	*
IC1	V30-0345-10	SC114	*
Q1	V09-0071-05	2SK55	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部品名／規格
Remarks
備考
14 3A A20-1391-13 FRONT PANEL PANEL *H
14 3A A20-1417-13 FRONT PANEL ASSY *T
15 3A A21-0302-03 DRESSING PANEL *I
15 3A A21-0302-03 DRESSING PANEL PU
15 3A A21-0302-03 DRESSING PANEL MX
C1 ,C2 C54-3310-39 CERAMIC 0.01UF P ET
C1 C90-0145-05 POLYESTER 0.01UF AC125V I
C1 C91-0023-05 CERAMIC 0.01UF AC250V UM
C1 C91-0023-05 CERAMIC 0.01UF AC250V HX
C1 C91-0025-05 CERAMIC 0.01UF AC125V P
28 1B D15-0155-13 PULLEY
29 1B D15-0156-13 PULLEY
30 3A D15-0170-14 PULLEY
31 2A D20-0144-03 DIAL SHAFT
① ② ③ ④ ⑤ ⑥

① Exploded view drawing No.
② Position in exploded view.
③ Symbol of new parts
④ Area to which parts are shipped. Example: A20-1390-13 is the part No. of FRONT PANEL ASS'Y for the "K" type products (for U.S.A.).
When this column is blank, it means that the same type of parts (same parts No.) are used for the products shipped to all areas.

CODEs in X05-1680-10
#1: K1, E1, U1 & T1 (KR-5010)
#2: K2, E2, U2 & T2 (KR-4010)
K: X05-1680-10 & X05-1680-11
E: X05-1682-71 & X05-1682-72
U: X05-1680-81 & X05-1680-82
T: X05-1680-51 & X05-1680-52
K1: X05-1680-10
K2: X05-1680-11
E1: X05-1682-71
E2: X05-1682-72
U1: X05-1680-81
U2: X05-1680-82
T1: X05-1680-51
T2: X05-1680-52

CODEs in X09-1360-10
#1: K1, E1, U1 & T1 (KR-5010)
#2: K2, E2, U2 & T2 (KR-4010)
K: X09-1360-10 & X09-1360-11
E: X09-1362-71 & X09-1362-72
U: X09-1360-81 & X09-1360-82
T: X09-1360-51 & X09-1360-52

⑤ Reference No. in schematic diagram.
⑥ Abbreviation of "ceramic capacitor".
All capacitors and resistors are listed using abbreviations.
⑦ Abbreviations
* Abbreviations of capacitors (Parts No. with initial letter "C").
ELECTRO . . . . . Electrolytic capacitor
LL-ELEC . . . . . Low leak electrolytic capacitor
NP-ELEC . . . . . Non-pole electrolytic capacitor
MICA . . . . . Mica capacitor
POLYSTY . . . . . Polystyrene capacitor

PARTS LIST/SEMICONDUCTOR SUBSTITUTIONS/IC CIRCUIT SCHEMATICS

MYLAR . . . . . Mylar capacitor
CERAMIC . . . . . Ceramic capacitor
TANTAL . . . . . Tantalum capacitor
MF . . . . . Metallized film capacitor
OIL . . . . . Oil capacitor
The unit "UF" is used in lieu of "μF".

* Abbreviations of resistors (Parts No. with initial letters "R").

RC . . . . . Carbon composition resistor
RD . . . . . Carbon film resistor
FL-PROOF RD . . . . . Flame-proof carbon film resistor
RW . . . . . Wire wound power resistor
FL-PROOF RS . . . . . Flame-proof metal oxide film resistor
RN . . . . . Metal film resistor
2B . . . . . Rated wattage 1/8W
2E . . . . . Rated wattage 1/4W
2H . . . . . Rated wattage 1/2W
3A . . . . . Rated wattage 1W
3D . . . . . Rated wattage 2W
3F . . . . . Rated wattage 3W
3G . . . . . Rated wattage 4W
3H . . . . . Rated wattage 5W

All resistor values are indicated with the unit (Ω) omitted.

* Abbreviations common to capacitors and resistors.

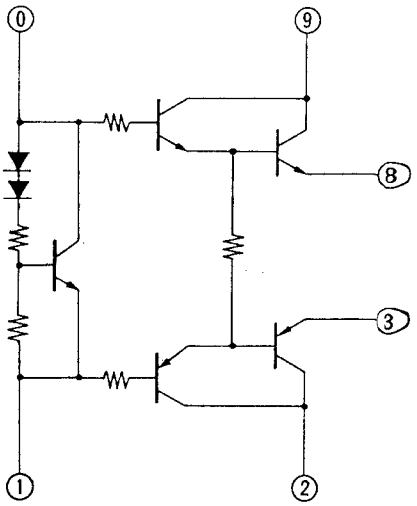
C . . . . . ±0.25pF (Used for capacitors only)
D . . . . . ±0.5pF (Used for capacitors only)
F . . . . . ±1%
G . . . . . ±2%
J . . . . . ±5%
K . . . . . ±10%
M . . . . . ±20%
Z . . . . . +80%,−20%(Used for capacitors only)
P . . . . . +100%,−0%(Used for capacitors only)

⑧ Resistors RD (carbon composition resistors) are not listed in the parts list. For values, refer to the schematic diagram.

SEMICONDUCTOR SUBSTITUTIONS

Ref. No.	Semiconductor Name	Semiconductor Substitutions
	W02-0023-05	
Q1	2SK55	2SK61(GR)
	X05-1680-10	
Q1	2SC1675(L,K)	2SC535(B), 2SC381(O)
Q2,3,6,7	2SC945(R,Q), 2SD767(Q,R)	2SC1400(E,U) 2SC1775(E,F)
Q4,5	2SA978(E,F)	2SA872(E)
Q8,9	2SC1775(E,F), 2SC1775A(E,F)	2SC1222(E), 2SC1400(E,U)
	X09-1360-10	
Q1~4	2SK163(L), 2SK136(Q)	2SK68A(M,N)
Q5,6	2SA872(E), 2SA872A(E)	2SA750(I) (E), 2SA640(E)
Q7,8	2SC1775(E,F), 2SC1775A(E,F)	2SC1400(E,U),2SC1222(E,U)
Q9	2SC1845(F,E)	2SC1890(E,F), 2SC1890A(E,F) 2SC1400(E,U), 2SC1222(E,U)
Q10	2SC945(Q,P), 2SD767(Q,R)	2SC1400(E,U), 2SC1775(E,F)
Q11,13	2SC2003(L,K)	2SC1509(Q,R), 2SC1735(D,E)
Q12	2SD762, 2SD330	2SD726, 2SD525
Q14	2SA954(L,K)	2SA777(Q,R), 2SA850(D,E)

STK-0040 AT & STK-0050 AT



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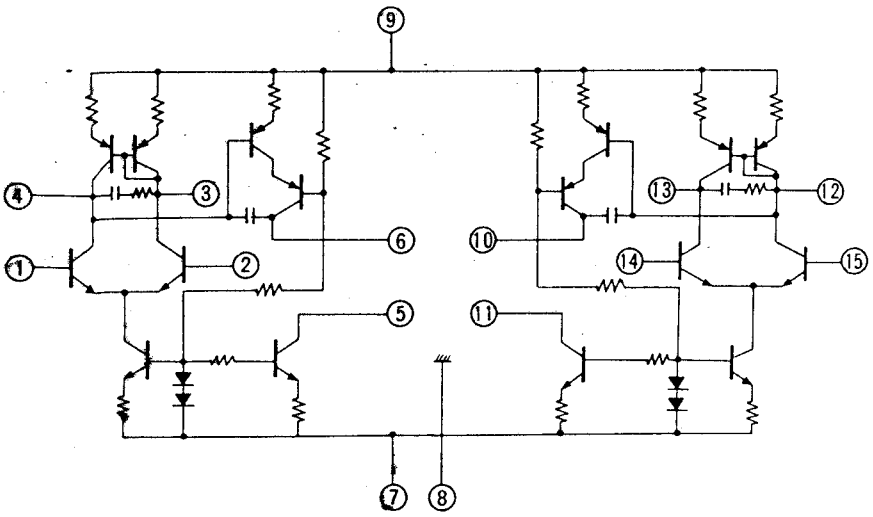

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